United States Court of Appeals

for the Second Circuit

EXHIBITS

76-7207

United States Court of Appeals

For the Second Circuit

Docket No. 76-7207

PRUDENTIAL OIL CORPORATION,

Plaintiff-Appellee,

vs.

PHILLIPS PETROLEUM COMPANY,

Defendant-Appellant.

ON APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK

(67 Civ. 3748 (C.L.B.))

EXHIBITS FOR JOINT APPENDIX

Volume IV — E958 - E1179

SULLIVAN & CROMWELL
Attorneys for Defendant-Appellant
48 Wall Street,
New York, N. Y. 10005
(212) 952-8100

GOLD, FARRELL & MARKS
Attorneys for Plaintiff-Appellee
595 Madison Avenue
New York, N. Y. 10022
(212) 935-9200

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AGREEMENT

between

PHILLIPS PETROLEUM COMPANY,
PUERTO RICAN INDUSTRIAL DEVELOPMENT COMPANY
and
THE ECONOMIC DEVELOPMENT ADMINISTRATION
OF THE COMMONWEALTH OF PUERTO RICO

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AGREEMENT

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Whereas, the Secretary of the Interior by letter of May 11, 1965, indicated his intention to proceed toward the granting of an allocation for a petrochemical complex in Puerto Rico upon condition that the Commonwealth of Puerto Rico and Phillips Petroleum Company present to him an agreement providing for the execution of a definitive, legally enforceable contract to implement the establishment of such a petrochemical complex; and

Whereas, the agreement called for by the letter of May 11, 1965, was entered into between the Commonwealth of Puerto Rico and Phillips Petroleum Company on May 27, 1965, and was presented to the Secretary of the Interior; and

Whereas, an allocation was granted to Phillips Petroleum Company effective January 1, 1966, for a core chemical facility in Puerto Rico;

Therefore, pursuant to the terms of the Secretary's letter of May 11, 1965, the following definitive, legally enforceable Agreement is entered into between the Economic Development Administration of the Commonwealth of Puerto Rico (hereafter referred to as "EDA") and Puerto Rico Industrial Development Company (hereafter referred to as "PRIDCO"), parties of the first part, and Phillips Petroleum Company (hereafter referred to as

"Phillips"), party of the second part. This Agreement is based on the following Objectives and Premises.

OBJECTIVES AND PREMISES

First, Phillips desires to establish a corporation to own and operate a core chemical facility in Puerto Rico as a basis for the establishment in Puerto Rico of satellite manufacturing plants producing intermediate chemical and consumer goods. Because of the benefits which the proposed petrochemical complex would provide for the economy of Puerto Rico, the Government of the Commonwealth of Puerto Rico is willing to offer tax exemption to such corporation, to participate in the financing of this project, to lend its support for an oil import allocation to Phillips by the United States Department of the Interior necessary to sustain this project, and to lend its full assistance and cooperation to Phillips

to implement this proposal. Additionally, both the Commonwealth Government and Phillips desire that the Commonwealth Government have equity interests in the corporation owning and operating the core chemical facility and in related satellite manufacturing plants.

Second, the core chemical facility proposed to be established in Puerto Rico pursuant to this Agreement will entail the processing of 50,000 barrels per day of selected hydrocarbon fractions. The core chemical facility will provide products such as paraffinic fraction, cyclohexane, benzene, ethyl benzene, orthoxylene, paraxylene, and motor fuel. Except for the motor fuel, the products of the core chemical facility will be available for three stages of processing at satellite plants to be located in Puerto Rico, with the resulting

production of the following products, among others:

(a) Products of Primary Chemical Processing

Ammonia
Ethylene
Butadiene
Carbon Black Feed
Adipic Acid
Styrene
Phthalic Anhydride
TPA Monomer

(b) Products of Secondary Chemical Processing

Urea
Polyethylene
Rubber
Carbon Black
Nylon 66 Resin
Polystyrene
Polyester Resin

(c) Products of Consumer Products Processing

Urea
Polyethylene Pipe
Polyethylene Film
Polyethylene Bottles
Polyethylene Housewares
Rubber Tires
Nylon 66 Fabric
Polystyrene Housewares
Polystyrene Molding
Polystyrene Forms
Polyester Fabric

Third, the production of the chemical feedstocks and of the chemical and consumer products listed above is projected by Phillips to result in the following investment and direct employment in Puerto Rico:

	Investment (Million $)	Employment
(a) Core Chemical Processing Facility	45.0	400
(b) Primary Chemical Processing Plants	92.8	610
(c) Secondary Chemical Processing Plants	96.3	1,845
(d) Consumer Products Plants	363.6	30,400
Total	597.7	33,255

Fourth, at least two additional employment opportunities will probably be generated by each employment opportunity directly created by the proposed petrochemical complex. Thus attainment of the direct employment levels listed above should result in total employment of approximately 100,000 generated by this project.

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Fifth, it is the objective of the Government of the Commonwealth of Puerto Rico and of Phillips to implement the proposal described above as promptly as possible. It is also the objective of the Commonwealth Government and of Phillips to insure that the proposed petrochemical complex will make maximum utilization of the labor force and materials in Puerto Rico and that eventually all of the products of the core chemical facility, except for motor fuel, will be utilized in further processing in Puerto Rico. To secure these objectives, the terms and obligations undertaken by EDA and PRIDCO, parties of the first part, and by Phillips, party of the second part, which are set out in this Agreement will be incorporated into a Commonwealth tax exemption for the corporation owning and operating the core chemical facility to be granted pursuant to the provisions of the Puerto Rico Industrial Incentive Act of 1963, as amended.

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Sixth, the Secretary of the Interior by letter of May 11, 1965, which is attached hereto as Appendix, announced the Department's determination that an economically feasible plan had been developed which would both strengthen Puerto Rico's economy and preserve the integrity and national security objectives of the Mandatory Oil Import Program and stated also that if the Government of the Commonwealth of Puerto Rico and Phillips would present to him an agreement providing for the execution of a definitive, legally enforceable contract to implement the establishment of the petrochemical complex, the Secretary would proceed to take all necessary steps and to make all necessary recommendations for changes in Proclamation 3279, as amended, which may be required to accommodate establishment of the Phillips project in Puerto Rico and to issue the necessary license

in order that an allocation to import 50,000 barrels per day of unfinished oils into Puerto Rico may be made effective at the beginning of the next allocation period, or as soon thereafter as feasible, to be effective for an initial period of ten (10) years from start-up and operation of the core chemical facility and — thereafter subject to such regulations as may be generally applicable to petroleum imports into Puerto Rico, except that allocations shall be granted consistent with the requirements of the Puerto Rican petrochemical industry.

In view of the fact that the agreement requested by the Secretary of the Interior and referred to above was presented to the Secretary as of May 27, 1965, and found to be satisfactory by him, EDA and PRIDCO, parties of the first part, and Phillips, party of the second part, having in mind the Objectives and

Premises hereinabove set forth as well as the terms and conditions which are part of the import allocation granted by the United States Department of the Interior to Phillips effective January 1, 1966, have agreed as follows:

SECTION 1. CORE CHEMICAL FACILITY

1.1 Phillips has formed Phillips Puerto Rico Core Inc. (hereafter referred to as "the CORE"), a corporation to, inter alia, establish, own, and operate a core chemical facility in Puerto Rico capable of processing 50,000 barrels per day of unfinished oils. The term "core chemical facility" as used herein shall mean that petrochemical facility capable of processing 50,000 barrels per day of unfinished oils to produce products such as paraffinic fraction, cyclohexane, benzene, ethyl benzene, orthoxylene, paraxylene, and motor fuel. Phillips will own seventy-five (75%) per cent of the equity of the CORE. PRIDCO will own twenty-five

(25%) per cent of the equity of the CORE. Phillips agrees to exercise its voting rights in the CORE to see that the purpose of the corporation, as expressed in this Section 1.1, is carried out.

1.2 Phillips will, within thirty (30) days after activation of the CORE, make request to the Department of the Interior that the license to be issued pursuant to the allocation granted to Phillips to import 50,000 barrels per day of unfinished oils into Puerto Rico be issued to the CORE.

1.3 With respect to sales contracts by the CORE for a period longer than two (2) years as referred to in Section 1.7.3 of that certain agreement entered into as of even date by and between EDA and PRIDCO, as parties of the first part, and the CORE, as party of the second part (hereafter referred to as "the EDA, PRIDCO-CORE Agreement"), if the buyer does not agree to release on one year's notice such product as is required for Puerto Rican use, Phillips will enter into an agreement (which shall be made a part of

the written sales contract with purchasers for such term) which shall obligate Phillips to substitute product from other sources when quantities are withdrawn for use in Puerto Rico. Any substitution shall be made without penalty to the Puerto Rican buyer or the CORE.

1.4 Phillips shall do whatever may be necessary to see that the by-laws of the CORE provide that the number of members of the Board of Directors shall be twelve (12). At least five (5) of such directors shall be Puerto Rican. So long as PRIDCO owns twenty-five (25%) per cent of the equity of the CORE, PRIDCO shall be entitled to nominate three of the twelve directors and Phillips agrees to exercise its voting rights for the purpose of electing as directors the three individuals nominated by PRIDCO.

SECTION 2. SATELLITE PLANTS

2.1 "Satellite" plants, as used in this Agreement, shall mean chemical processing and consumer production plants deriving feedstock from the core chemical facility and/or from

other satellite plants. In addition, "satellite" plants for purposes of Sections 2.2, 2.3, and 2.4, infra, shall be those satellite plants which are deemed acceptable by the Administrator of EDA as implementing and furthering the Objectives and Premises of this Agreement.

2.2 If at the end of ten (10) years from date of start-up and operation of the core chemical facility, sufficient profits from the operation of the core chemical facility have not been generated to provide an investment by the CORE in satellite plants in the amount of $55,000,000, Phillips will invest the additional sum of $5,000,000 a year in satellite plants each year after the tenth operating year until the total investment in satellite plants of $55,000,000 has been reached: PROVIDED, however, that any investment by Phillips in satellite plants shall be credited toward fulfillment of the investment of $55,000,000 referred to in

this Section 2.2.

2.3 In the event that at the end of six (6) months from the date of grant of allocation, contractual commitments have not been received for the establishment of satellite plants representing an investment of at least $10,000,000, Phillips will make an immediate commitment to invest in satellite plants to bring the total so committed to a minimum of $10,000,000: PROVIDED, however, that such investment by Phillips shall be credited toward fulfillment of the investment of $55,000,000 referred to in Section 2.2, supra.

2.4 In the event that at the end of twenty-one (21) months from the date of grant of allocation, contractual commitments have not been received for the establishment of satellite plants representing an investment of at least $30,000,000,

Phillips will make an immediate commitment to invest in satellite plants to bring the total so committed to a minimum of $30,000,000: PROVIDED, however, that such investment by Phillips shall be credited toward fulfillment of the investment of $55,000,000 referred to in Section 2.2, supra.

2.5 Phillips will limit its participation (including participation by reason of Phillips ownership of seventy-five (75%) per cent of the equity of the CORE) in any satellite in which investment is made in discharge of Section 2.2, supra, and Section 2.2 of the EDA, PRIDCO-CORE Agreement to twenty-five (25%) per cent of the equity of the corporation owning and operating the satellite, and such limitation shall also be effective in the instance where PRIDCO fails to exercise all

or a portion of its option to participate up to the amount of twenty-five (25%) per cent of the interest available to Phillips, as provided in Section 2.6, infra: PROVIDED, however, that Phillips equity participation in any such satellite may exceed such twenty-five (25%) per cent limitation if agreed to by the Administrator of EDA upon a showing by Phillips that such additional participation by Phillips is necessary in order to provide for the most beneficial implementation of the petrochemical complex. If the implementation of the limitation set forth in this Section 2.5 shall have the effect of rendering impossible reinvestment of profits from the operation of the core chemical facility as set forth in Section 2.2 of the EDA, PRIDCO-CORE Agreement, such reinvestment of profits as set forth therein may be deferred until such time as practicable

to make such reinvestment, but not later than ten (10) years after start-up and operation of the core chemical facility.

2.6 Phillips will offer PRIDCO equity participation with it in any proposed satellite plant up to the amount of twenty-five (25%) per cent of the interest available to Phillips. PRIDCO's option to participate up to the amount of twenty-five (25%) per cent of any such interest available to Phillips shall be exercised, if at all, within sixty (60) days of the date upon which information concerning such proposed satellite is made available by Phillips to PRIDCO in the same detail as available to and relied upon by Phillips management in reaching its decision concerning such satellite.

SECTION 3. ASSISTANCE BY EDA, PRIDCO

3.1 EDA and PRIDCO will, consistent with the terms

of this Agreement and to the best of their ability, cooperate with and assist Phillips in the procurement of all necessary Federal, Commonwealth, and local license and approvals required to implement and sustain this Agreement.

SECTION 4. COOPERATION BETWEEN PHILLIPS AND THE COMMONWEALTH

4.1 Phillips will cooperate with the Commonwealth to the fullest extent possible in efforts to promote the establishment and development in Puerto Rico of a scientific research center at a site to be determined by the Commonwealth.

4.2 The Commonwealth of Puerto Rico will, to the best of its ability, cooperate with, assist, and support Phillips in obtaining its requested allocation to import 50,000 barrels per day of unfinished oils into Puerto Rico.

4.3 Phillips and the Commonwealth will use their best efforts to induce chemical companies to build satellite plants in Puerto Rico until such time as all petrochemicals produced by the CORE are utilized for the manufacturing of consumer goods in Puerto Rico. In furtherance of this objective, Phillips and the Commonwealth commit themselves to financial participation in satellite plants in the manner and to the extent set forth in this Agreement.

SECTION 5. HIRING OF GOVERNMENT PERSONNEL

5.1 No person who at any time from January 1, 1961, to the execution of this Agreement has been an employee (other than in a clerical or custodial capacity) or an official of EDA or the Office of the Governor of Puerto Rico, including consultants and other retainees, shall thereafter be hired or retained by

Phillips or by any satellite in which Phillips has a controlling interest. In addition, no other employee (other than in a clerical or custodial capacity), official, or retainee of any other agency or instrumentality of the Government of the Commonwealth of Puerto Rico, who has at any time been directly involved, in an official capacity, in duties affecting the establishment of the petrochemical complex shall thereafter be hired or retained by Phillips or by any satellite in which Phillips has a controlling interest. No person who at any time subsequent to the execution of this Agreement shall directly act, in an official capacity, in behalf of the Government of the Commonwealth of Puerto Rico in carrying out the terms of this Agreement shall thereafter be employed or retained by Phillips or

any satellite in which Phillips has a controlling interest.

SECTION 6. DISPUTES AND ARBITRATION

6.1 In the event of a dispute between EDA and PRIDCO, as parties of the first part, and Phillips, as party of the second part, concerning the interpretation or the alleged nonperformance of this Agreement, the complaining party shall promptly notify the other party in writing of its interpretation of the disputed part of the Agreement, or of the alleged failure to perform, and shall allow such party a reasonable period of time in which to agree to such interpretation or to remedy such alleged nonperformance. In the event of inability or unwillingness of the parties to agree upon the interpretation of the Agreement or to remedy any alleged failure of performance, the parties shall use their best efforts to dispose of the

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dispute by voluntary settlement.

6.2 In the event of inability to agree upon an interpretation of the disputed portion of the Agreement, or to remedy an alleged failure of performance, or to arrive at a voluntary settlement of a dispute resulting therefrom, the dispute shall be submitted to arbitration conducted in accordance with the Commercial Arbitration Rules of the American Arbitration Association. EDA and PRIDCO, as parties of the first part, shall name one (1) arbitrator, and Phillips, as a party of the second part, shall name one (1) arbitrator, and the two (2) arbitrators so named shall choose a neutral third party not connected with either other party to act as the third arbitrator. In the event that within thirty (30) days after the date upon which the two (2) arbitrators have been named

such arbitrators are unable to agree upon a third arbitrator, the American Arbitration Association shall be requested to designate the third arbitrator. The award of the arbitrators shall be handed down within a period of ninety (90) days after they have taken the disputed question under advisement.

6.3 The arbitration panel shall have no authority to make findings as to any question of law, and any such findings made by it shall be of no force or effect, except as expressly agreed by the parties with reference to any particular dispute. The findings of the arbitration panel shall be conclusive and binding upon the parties as to all questions of fact.

6.4 The costs of arbitration shall be borne equally by the parties of the first part, on the one hand, and the party of the second part, on the other.

SECTION 7. BREACH BY PHILLIPS OF AN ESSENTIAL OBLIGATION

7.1 Upon the establishment of a breach by Phillips of an essential provision of this Agreement, the Commonwealth may:

7.1.1 take legal action to suspend or revoke any tax exemption granted to the corporation owning and operating the core chemical facility; and/or

7.1.2 recommend to the Department of the Interior that Phillips or the CORE's license to import feedstock into Puerto Rico be revoked.

7.2 PROVIDED, however, that the sanctions set forth above shall not be available to the Commonwealth until the breach of an essential provision of this Agreement shall have first been established by a court of competent jurisdiction and any possible appeals therefrom exhausted: PROVIDED further that notwithstanding any determination of fact under the "Disputes and Arbitration" provision of this Agreement the question whether breach of an essential provision of this Agreement has occurred is deemed to be a question of law; AND PROVIDED further that upon a determination by a trial court after proceedings on the merits that there has been a breach of an essential provision of this Agreement such as would warrant the suspension or revocation of the tax exemption granted to the CORE and thereafter until all possible appeals from the determination of said trial court have been exhausted, the CORE shall set aside in escrow an amount equal to the taxes which would, during the course

of appellate review, be due to the Commonwealth in the absence of the tax exemption.

SECTION 8. FORCE MAJEURE

8.1 Phillips shall not be held to be in breach of or noncompliance with this Agreement if Phillips is unable to meet an obligation of this Agreement because of unforeseeable causes beyond its control, including, but not limited to, acts of God or of the public enemy, restrictions imposed by any government or governmental agency, fires, floods, epidemics, quarantine restrictions, strikes, lockouts, inability to secure labor, freight embargoes, unusually severe weather conditions or delays of a contractor due to the above: PROVIDED further that Phillips shall not be held to be in breach of or noncompliance with this Agreement if the controls on imports into the United States and Puerto Rico of crude oil, unfinished oils fuel or

finished petroleum products established by Presidential Proclamation 3279, as amended, are abolished: AND PROVIDED further that if the allocation granted Phillips to import 50,000 barrels per day of unfinished oils into Puerto Rico is terminated or reduced within the initial ten (10)-year period (except as a result of sanctions invoked upon establishment of a breach by the CORE of an essential provision of the EDA, PRIDCO-CORE Agreement as set forth in Section 9 thereof, or upon establishment of a breach by Phillips of an essential provision of this Agreement as set forth in Section 7, supra), Phillips shall not be held to be in breach of or noncompliance with any provision of this Agreement thereby rendered impossible of performance or economically unfeasible; nor shall Phillips be held to be in breach of or noncompliance with any provision of this Agreement thereby rendered impossible of performance or economically unfeasible if at any

time after the ten (10)-year period mentioned above an allocation shall be granted to Phillips for importation of unfinished oils into Puerto Rico which is not consistent with the requirements of the Puerto Rican petrochemical industry, as mentioned in the penultimate paragraph of the letter of the Secretary of the Interior of May 11, 1965, attached as Appendix to this Agreement; nor shall Phillips be held to be in breach of or noncompliance with any provision of this Agreement if the petrochemical complex is rendered no longer economically feasible by reason of any other action of the United States Government or by the Government of the Commonwealth of Puerto Rico except such action by the Commonwealth permitted under the EDA, PRIDCO-CORE Agreement or under this Agreement in the event of breach.

SECTION 9. DISPOSITION OF STOCK

9.1 During the period beginning with the date of this Agreement and ending either on the date which is ten years from the date of start-up and operation of the core chemical facility or on the date when the tax exemption granted to the CORE under the Puerto Rico Industrial Incentive Act of 1963, as amended, terminates, whichever date is later, neither Phillips nor PRIDCO shall sell its shares of stock in the CORE except upon the consent of the other shareholder. Notice of any proposed sale of shares of stock in the CORE by either Phillips or PRIDCO, whether such sale is to be made within the period of time set forth above or thereafter, shall be given to the other shareholder at least ninety (90) days before such sale is proposed to take place. No sale of shares of stock in the CORE shall be made by either Phillips or PRIDCO at any time if the effect of such sale would be to

nullify or impair the import allocation granted to sustain the petrochemical complex which is the subject of this Agreement whether such nullification or impairment result from termination of the allocation, or reduction of the amount thereof, or such other action as may reduce its value.

SECTION 10. TERM OF AGREEMENT

10.1 This Agreement shall take effect as of the date hereof and remain in effect until the date which is fourteen (14) years subsequent to the date on which the Commonwealth tax exemption granted to the CORE takes effect or until the date when Phillips obligation under Section 2.2 of this Agreement is discharged, whichever date is later. Unless otherwise agreed to by the parties to this Agreement, this Agreement shall terminate at the end of the period set forth in the preceding sentence: PROVIDED, however, that the provisions of

Section 1.4 of this Agreement shall remain in effect so long as both Phillips and Pridco own all of the shares in the CORE.

SECTION 11. LAW GOVERNING AGREEMENT

11.1 This Agreement will be interpreted and enforced pursuant to the laws of the Commonwealth of Puerto Rico.

Done at SAN JUAN, Puerto Rico, in triplicate, each of which is an original and all of which are identical, on the 14th day of March, 1966.

Economic Development Administration of the Commonwealth of Puerto Rico

By _____
Rafael Durand,
Administrator

Phillips Petroleum Company

By _____
Stanley Learned
President

Puerto Rico Industrial Development Company

By _____
Manuel Sanchez Rivera
President and General Manager

P-31, Letter, Irizarry to Coan, August 14, 1961

P 31

CIRCLE 9-1210

COMMONWEALTH OF PUERTO RICO

ECONOMIC DEVELOPMENT ADMINISTRATION

CONTINENTAL OPERATIONS BRANCH

666 FIFTH AVENUE NEW YORK 19, N. Y.

989

August 14, 1961

Jan 7, 1963 - AOL
Jim Farmer
Cy Norton

Mr. J. P. Coan
Omega Management Inc.
230 Park Avenue
New York 17, New York

Dear Mr. Coan:

Thank you for your recent visit to our office. It was indeed a pleasure to have met with you again to discuss the proposed oil refinery project for Puerto Rico.

I met with Mr. Diaz-Hernandez and with our economists and we concluded that it is not possible for us at this time to provide you with the information requested regarding possible refinery products to be produced in Puerto Rico with their respective volumes.

The justification for the establishment of a third oil refinery in Puerto Rico, will be based solely on the following criteria:

1) The refinery should be established for the development and growth of the social and economic conditions of the Commonwealth of Puerto Rico.

2) It should be a fully integrated project with the maximum possible flexibility, so as to serve all the future needs in the growth and development of the petro-chemical industry in Puerto Rico.

Core fuel plant with
binding commitment in charter &
Basic to back contract for supply
& marketing of petroleum products.

64-136
15771

COMMONWEALTH OF PUERTO RICO
ECONOMIC DEVELOPMENT ADMINISTRATION

E 990

Mr. J. P. Coan

August 14, 1961

We trust that the aforementioned is to your satisfaction, and shall await the preparation of the prospectus for further negotiations.

Very truly yours,

ECONOMIC DEVELOPMENT ADMINISTRATION

Ivan E. Irizarry
Assistant Eastern Regional Manager

IEI:c.e

BEST COPY AVAILABLE

P-49, Memorandum, Tate to Fischbeck, June 1962

P49

RECD. JUN 14 1962

File - Puerto-Rico Operations

E 991

INTER-OFFICE CORRESPONDENCE / SUBJECT:
BARTLESVILLE, OKLAHOMA

6/14/62

Mr. Dale Fischbeck,
Phillips Petroleum Co.,
80 Broadway,
New York, N. Y.

Dear Dale:

So that you will be fully advised with regard to the discussion with Bruce Brown, you will note attached letters which I think will pretty well tell the story.

In checking with Bill Hewitt yesterday, I find that the Executive Committee concurred with the Operating Committee's recommendation, which was to advise Mr. Brown that we have no interest in pursuing the matter further at this time. Bill Hewitt has already written Mr. Brown so advising him.

With regard to the other action taken by the Executive Committee, that is, assigning the responsibility of Puerto Rico to the International Department; this action was, of course, a result of discussing this matter and the reason for the action was to assign responsibility which had not been clear before. In other words, up until now, it had never been decided as to whether or not Puerto Rico would be considered domestic or international.

When you have finished with the attached correspondence, please return it for our file.

Yours very truly,

C. C. Tate

CCT:tgs

C. C. Tate.

Attach.

PLF 14 6/14/62

Tx 62

P-63, Outline for a petrochemical industry, November 1962

P-63

E 992

PUERTO RICO OIL & PETRO CHEMICAL COMPANY

OUTLINE FOR A PETRO CHEMICAL INDUSTRY IN PUERTO RICO BASED ON DAILY REQUIREMENTS OF 60,000 BARRELS OF CRUDE OIL, OF WHICH 30% WILL BE REQUIRED FOR PETRO CHEMICALS AND 70% FOR REFINERY PRODUCTS .

FILE
EX 523 FOR ID.
B. JACOBS
12-23

N. M. Shippee
November, 1962

PUERTO RICO OIL & PETRO CHEMICAL COMPANY

The economy of Puerto Rico will benefit by the establishment of a company whose express purpose is the development of a petro chemical industry.

The Puerto Rico Oil and Petro Chemical Company (which we shall call PROPCO) has been established for this purpose.

PROPCO proposes to construct a plant to provide chemical feed stocks to chemical companies for the production of petro chemicals. It plans to continue efforts to establish new petro chemical companies and to provide the required feed stocks for them.

The most available source of suitable raw material for this plant is crude oil from Venezuela. The PROPCO plant will be a basic oil refinery designed to produce an initial petro chemical feed stock and to separate other petroleum products in marketable form.

The initial petro chemical feed stock will be a high wax cut which will be approximately 30% gross of the refinery output.

E 994

In the attached chart is a schematic of the materials flow for the PROPCO plant. Based upon 60,000 barrels of crude oil per day input, we expect 20,000 barrels of 30% wax cut for petro chemicals.

MARKETING PLAN

To implement the PROPCO program, the following steps are planned:

1- A back-to-back contract with a large oil company to provide 60,000 barrels of crude oil (heavy wax content) and to market 90% of this total in refinery products.

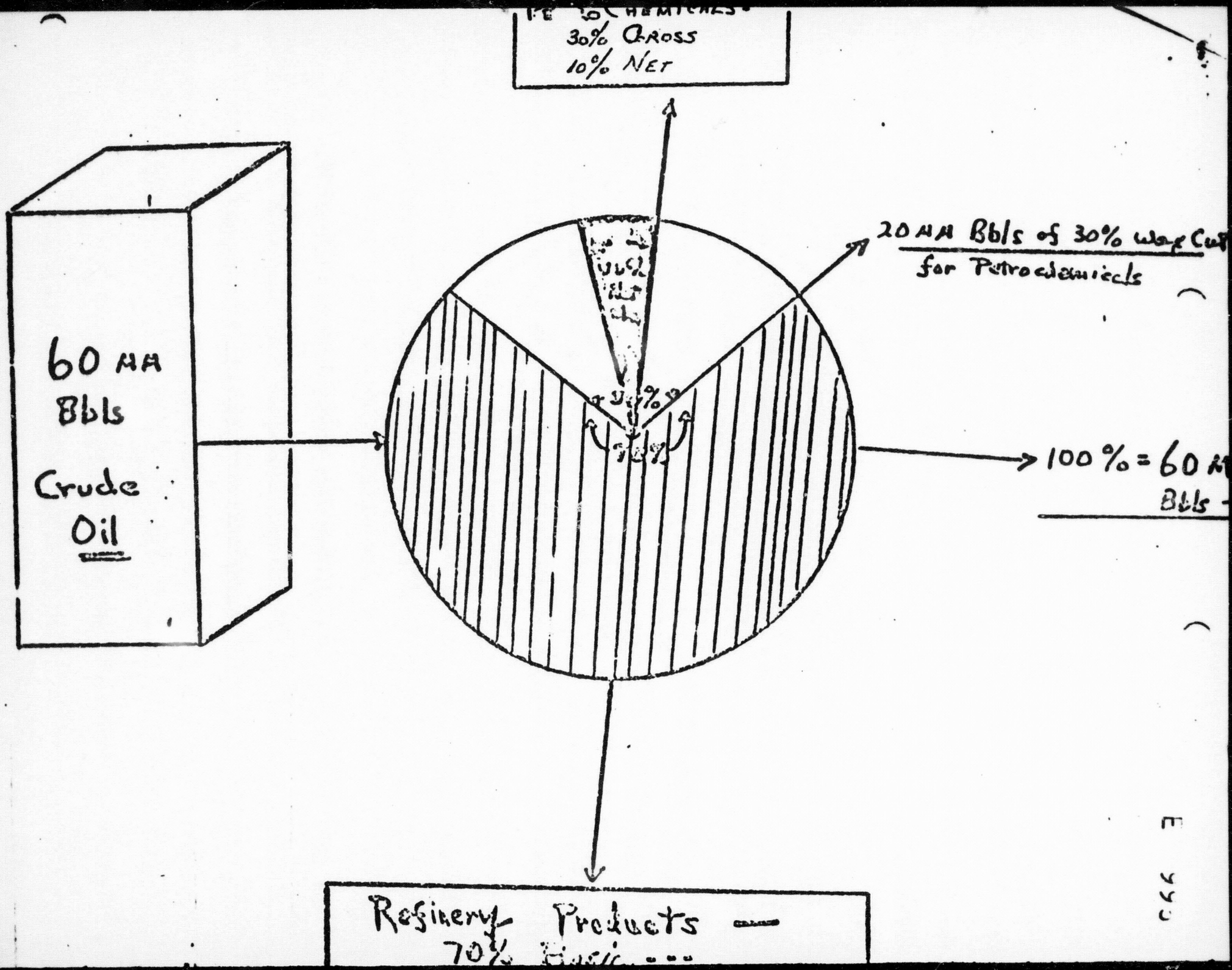
2- A contract with a petro chemical company to market 10% of the total output in wax.

3- Application for allocation of crude oil.

4- Construction contracts and schedule for completion.

Candidate Oil Companies

Atlantic
Esso
Mobil
Phillips
Shell
Sinclair
Sun
Superior
Texaco


30% Gross
10% Net
60 MM Bbls Crude Oil
20 MM Bbls of 30% wax Cut for Petrochemicals
100 % = 60 MM Bbls
Refinery Products —
70%

P- 67, Letter, Shippee to Anderson, November 9, 1962

E 996

P67

November 9, 1962

Mr. Robert B. Anderson
Suite 2700
One Rockefeller Plaza
New York, New York

RE: Puerto Rico Oil & Petrochemical Co.

Dear Mr. Anderson:

There remain four steps to complete the project for presentation to the oil allocation board in Washington for the subject company. Of these, three are in hand, and one which may be the keystone requires attention.

This one is:-

> Back-to-back contract with a major oil (or several) company(ies) for crude with heavy wax to market 90% in refinery products.

The purpose of today's meeting is to resolve this final step; namely, to identify and approach the candidate oil company (or companies).

Present will be:-

> E. M. Warburg Co. - the prime mover in this project.
>
> Kuhn Loeb Co. - their financial partner.
>
> Prudential Oil Corporation - the sponsor company through whom all the organization steps and contractual arrangements will be made.

For this project, a Puerto Rican company will be formed by Prudential and those participating in the origin of this new venture will share in the insiders stock.

XEROX COPY

DX 10

The other three steps which are arranged for in a preliminary fashion include:

1- Petrochemical customer for 10% in heavy wax - probably Monsanto.

2- Financial program estimated to reach $60,000,000, Warburg - Kuhn Loeb - and others.

3- Business organization and direction - under Thomas Young as operating head, and through Prudential.

The program is being sponsored in Washington by Oscar Chapman, who will be general counsel of the company.

Sincerely,

PRUDENTIAL OIL CORPORATION

N. M. Shippee
Chairman

NMS/pm

XEROX COPY XEROX COPY XEROX COPY

P- 69, Letter, Learned to Prudential, November 13, 1962

P69 E 998

Plls Ex 9
For I.D. 2-9-72 w.d.

PHILLIPS PETROLEUM COMPANY

BARTLESVILLE, OKLAHOMA

November 13, 1962

STANLEY LEARNED
PRESIDENT

Prudential Oil Corporation
21 West Putnam
Greenwich, Connecticut

Attn: Mr. N. M. Shippee, Chairman

Gentlemen:

In connection with the Puerto Rico Oil and Petrochemical Company's petrochemical complex to be built in Puerto Rico, Phillips Petroleum Company is prepared to:

1 - Furnish 30,000 to 60,000 barrels per day of crude oil for charge stock;

2 - Purchase the refined petroleum products not consumed in the petrochemical operations;

3 - Counsel with you and assist, if you wish, in the design and construction and operation of the proposed facilities.

Whenever you desire, we shall be glad to have our representative work with you to negotiate and complete contracts.

Very truly yours,

P- 80, Memorandum of N. M. Shippee, December 28, 1962

PRUDENTIAL OIL CORPORATION
DIVERSIFIED DRILLING INVESTMENTS
21 WEST PUTNAM AVENUE GREENWICH, CONNECTICUT
TELEPHONE CODE 203 NORMANDY 1-9300

E 999

MEMORANDUM

12/28/62

TO: DIRECTORS
-- Prudential Oil Corp.
-- E. M. Warburg Co.

SUBJECT: REPORT ON VISIT TO PUERTO RICO
&
PROPOSED ESTABLISHMENT OF PETROCHEMICAL REFINERY

The need for a chemical industry in Puerto Rico has been identified, and we have considered the establishment of a petrochemical refinery as a core plant to supply the raw materials for this industry.

After preliminary meetings with representatives of the Commonwealth, we decided to investigate further, and arranged for a visit to Puerto Rico to:-

-- Select a site,
-- Request Commonwealth support.

Mr. Thomas Young, designated operating head of the project (Puerto Rico Oil and Petrochemical Corporation - PROPCO), and Mr. Nathan Shippee, designated Chairman of the project, made the visit, accompanied by Mr. Jack Coan, President of Omega Management Consultants, advisors to the Commonwealth.

Mr. Young inspected the available sites, and gained agreement for the site chosen.

Mr. Shippee met with Mr. Durand and Mr. Diaz Hernandez, respectively Director and Executive Director of the Economic Development Administration for the Commonwealth.

Policy statements were obtained on the following points:-

-- PROPCO would lease the site from the Commonwealth, and the Commonwealth would supply the area development, including all facilities, excepting those used exclusively by PROPCO. There is $50 million available for land purchase, and $60 million available for area development for this purpose.

-- PROPCO would retain independent counsel to advise the Commonwealth regarding the technical feasibility of the proposed project.

-- The Commonwealth would sponsor the project after independent technical endorsement, and would grant PROPCO an exclusivity for the chemical industry in their charter of incorporation.

-- The Commonwealth would grant PROPCO tax and other protection to enhance the profitability of the project.

Based upon this investigation and official support, an application for import quota for oil was prepared for submission to the Department of the Interior.

Support of the project has been gained in several essential areas, including financial, technical, operating, and legal. Mr. R. B. Anderson has actively engaged in locating sources of supply, and of marketing. Mr. Oscar Chapman has actively participated in legal matters. E. M. Warburg has led the financial interests. Mr. Thomas Young has been the prime mover in operating and technical matters. Mr. Nathan Shippee has served as Chairman and catalyst.

On December 27th, in New York, a meeting was held with Mr. Diaz Hernandez, Executive Director of Economic Development Administration, to review the project and to select the independent consultant for the final phase.

The A. D. Little Co. was selected, and it was agreed that all meetings now would be joint meetings. The project would proceed as on a partnership basis and that we would work hand-in-hand to complete it.

With the full support of the Commonwealth, and assurance of an exclusive charter for a core plant to build a petrochemical industry in hand, we are now preparing the final draft of the Project Report to submit to the Department of the Interior. - Target date early February -

N. M. Shippee, Chairman
Prudential Oil Corporation
New York, New York

P- 81, Charter Paragraph No. 1, December 28, 1962

P-81

E 1001

CHARTER PARAGRAPH NO. 1

The company is formed for the express purpose of developing a chemical and petrochemical industry in Puerto Rico. It will design and build a refinery to produce sulfur, aromatic petrochemicals and petroleum products. This refinery will be the basis of and feed plant for the petrochemical industry as it grows. The refinery will be designed so that petrochemical side streams can be withdrawn in the future. When these side streams are needed, the company will install the necessary additional facilities to purify them. The company will also promote additional chemical and petrochemical projects related to the development of the petrochemical industry.

12/28/62

432. DC

9-10-73

HARVEY D. KRAMER

REPORTER

P- 83,Letter, Shippee to Anderson, December 31, 1962

P-83

DE 25 id E 100

4-16-70 ffz

December 31, 1962

Now scheduled for 11 ½ in D.C.

Mr. Robert B. Anderson
One Rockefeller Plaza
Suite 2700
New York, New York

RE: VISIT OF MR. DURAND, WASHINGTON, JANUARY 8/9/10

Dear Mr. Anderson:

At a meeting in New York with Mr. Diaz, Executive Director of the Economic Developmental Administration, Continental Division, Commonwealth of Puerto Rico, on December 27th, we reviewed the work of the past 2 months, and agreed that we had completed Phase #1 of the project for a core plant as the basis of a petrochemical industry in Puerto Rico. During this period we have investigated the interests and tested the attitudes of the parties concerned, and found mutual interests within agreed limits. Policies have been formed to identify these limits, and the support of the Commonwealth has been pledged to seek approval for our request of an oil import allocation to start the core plant.

We now begin Phase #II. We have agreed to retain A. D. Little Co. to observe our project and advise the Commonwealth on its feasibility technically. The E.D.A. is preparing a letter of support for our project, and Mr. Durand, Administrator of the E.D.A. is coming from Puerto Rico on January 8/9/10 to meet with Mr. Udall to plead the Puerto Rican case regarding oil imports. He will argue that their best interests have not been recognized in the President's letter, and will request verbal assurance from Mr. Udall that Puerto Rico will receive special treatment as an essential condition to the economic growth of the island.

BEST COPY AVAILABLE

Following this meeting, we shall then go to the oil import board with our project for a coke plant as the basis of a chemical industry in Puerto Rico.

Mr. Durand is now clearing this procedure with the Governor and the only question seems to be whether the Governor himself will make the call on Mr. Udall, or save himself for another time if a call to the State Department is needed.

We are completing the preparation of the Presentation Book and shall have all the papers ready to submit as soon as the visit of Mr. Durand in Washington is completed.

Will you please comment on this plan of action, and coordinate with Mr. Chapman any additional thoughts you have which may contribute to the common goal.

Sincerely yours,

PRUDENTIAL OIL CORPORATION

N. M. Shippee
Chairman

NMS/pm
Encl: Policy Guide Lines

cc: Messrs. O. Chapman
J. Coon
D. Slinkon

P- 87 ,Memorandum of F.T. Page, January 18, 1963

FILE: PUERTO RICO CRUDE

P-87

January 10, 1963
FTP-63-63

E 7004

PRUDENTIAL OIL CORP.

New York Office

MEMORANDUM

Mr. V. H. Shipee, President, Prudential Oil Corp.

I telephoned Mr. Shipee to tell him I would be out of the country for a few weeks and asked if anything we should be doing to assist in proposed Puerto Rican project. He said there had been some delays but he would be in touch with us next week and matter will be handled by Al Smith and Fred Jackson.

FTP:pb

F. T. Page

cc: Paul J. Parker
Miller W. Conn
F. M. Jackson
A. W. Smith

THIS COPY FOR

Pile 154/57 Ltr. 3

3/13/17

F63

P- 91,Letter, Jackson to Fischbeck, February 19, 1963

F. V. Hawkinbine
FVH

E 1005

February 19, 1963

INTER-OFFICE CORRESPONDENCE / SUBJECT: Puerto Rico Refinery
FWJ-SKY-63

Mr. A. D. Fischbeck
New York Office.

Dear Dale:

Mr. Tom Young of Prudential Oil Corporation, 21 West Putnam, Greenwich, Connecticut called this morning to invite you and me to a meeting on Wednesday February 20, at 2.30 p.m. The meeting will be held in the office of Jack Combs, Omega Management Inc., 230 Park Avenue, New York. Besides Young and Combs, there will be in attendance representatives from Monsanto in Houston headed by Dr. Norman Lewis. I assured him, at least one of us or both would attend the meeting.

Crude selection appears to be the prime reason for the meeting. Young says Dr. Norman Lewis is looking for a crude that will provide 5,000 to 6,000 B/D of 600/900 F middle distillate cut with at least 30% wax content. Young had earlier asked us to locate such a crude. Al Smith located one in Brazil which he thinks is available and has asked Nagle to forward specifications and a 5 gallon sample here for transmittal to Monsanto. Specifications are attached. The sample is on its way to New York. Borneo and Sumatra crudes may also qualify. Everything has been handled so secretly on this project that we do not know the reason for Monsanto's interest in this volume of wax. Possibly they intend to crack paraffins to olefins and hence into a bio-degradable detergent.

As I understand the deal, Puerto Rican Development Authority wants to develop a petrochemical complex in Puerto Rico and needs a refinery to start with. Phillips would have back-to-back contract on crude and products.

Tom Young listed two product schemes (attached) based on 60,000 B/D throughput of Tiajuanas medium crude which were proposed by U.O.F.

Very truly yours,

F. W. Jackson

FWJ:ing
Attachment

BEST COPY AVAILABLE

E-1006

BAHIA, BRAZIL CRUDE OIL

PRODUCT YIELDS

I.	Topping and cat Reforming		
	Motor Fuel	15.8%	88 O.N. with 3 cc/gal TEL
	Kerosine	18.1%	
	Light Fuel Oil	65.0%	115° Pour Point
		98.9%	
II.	Topping and cat Cracking		
	Motor Fuel	39.8%	88 O.N. with 3 cc/gal TEL
	Kerosine	81.1%	
	Light Fuel Oil	31.0%	60 - 80° Pour Point
	L.P.G. to Fuel Gas	10.2%	
		99.1%	

8

E 1007

U.O.P. SCHEME

Puerto Rico Refinery

Tiajuanas Medium Crude

I 60,000 B/D crude charge

	I	II
Gasoline Premium	4,700 B/D	3,900 B/D
Regular	11,000	9,100
Benzene	600	930
Toluene	693	1,000
C_8 Aromatics	723	1,100
Raffinate	3,100	4,700
Naphthalene	440	680
C_3s	2,300	1,725
C_4s	2,500	1,675
No. 2 fuel oil	11,900	17,400
No. 6 fuel oil	13,400	5,000
Pitch	8,000	13,000

P- 95, Letter, Shippee to Anderson, March 8, 1963

P95

E 1008

March 8, 1963

Mr. Robert B. Anderson
Suite 2700
1 Rockefeller Plaza
New York, New York

PLF
~~DEPT~~ EX 195 FOR ID.
B. JACOBS 10/25 12:22

Re: Puerto Rico Refinery

Dear Bob:

In a meeting Wednesday, I congratulated Mr. Diaz-Hernandez on the announced new Ford plant to employ 3000 on the Island, and he replied that the completion of this project would now permit him to turn his attention to the chemical industry project, of which the "core plant" is the first step.

Tom Young is meeting again today with Dale Fischbeck to get the marketing report outlined for a refinery starting at 20% feedstock, and projecting over 10 years increases in this percentage as the chemical industry might be expected to grow.

Oscar Chapman has arranged with Brown Root to complete an engineering study based on Phillips' marketing projections.

These two reports will then be submitted in support of an import quota request—hopefully by April 1.

Meanwhile, the Commonwealth is requesting support from Interior for the core plant concept.

The project seems to be coming to a point.

At some point soon, we shall want you to devise the plan for the distribution of equities, and the method of underwriting. In my last conversation with Mr. Chapman, he asked how this would be done, and I said that we had agreed to put this matter in your hand, to which he concurred.

Warm regards,

BEST COPY AVAILABLE

N. M. Shippee
Chairman

NMS/pd

bcc: E. J. Willey

P- 97, Memorandum

3/14/63

P97 E 100

Mr. Fischbeck brought this file and left it for your perusal. He said you would recognize it immediately as concerning a refinery in Puerto Rico in which Bob Anderson and Stanley Learned were interested, and which has been considered before. He would appreciate your studying it and giving him answers to these questions:

1. How much of the products from a 60,000 B/D refinery could be moved to the armed forces from a Puerto Rican location? amount that could be economically lifted
2. Is it necessary to have a crude oil import allocation covering the amount of crude required for military product usage?

Mr. Fischbeck said he would be in touch with you, probably tomorrow. He will be involved in meetings most of today and tomorrow. (Thephone number he had given us on which you could call him in case you came in before he brought the file by is 7935.)

vm
3-11

Dale Fischbeck
Thanks Dale. Very interesting. No further comment.
3/15/63

P- 99,Letter, Fischbeck to Coan March 28, 1963

Frank Page
A. W. Smith
F. H. Jackson
A. D. Pirchbeck

P99 14

E 101.0

March 2, 1962

File — Puerto Rico Refinery - Petrochem.
ADF-SCHZ-63

Mr. Miller V. Conn (with attachments)
New York Office

Dear Miller:

Since March 7, 1962, S & D personnel have attended meetings periodically for discussions on a potential refinery in Puerto Rico.

Nearly all of the discussions have evolved about supplying feedstocks to petrochemical projects mythically located adjacent to the refinery. However, all facets relating to the general subject are vague. It is my understanding that the promoters have no intention of becoming involved in petrochemical manufacture, but wish to act as feedstock supplier in case someone can be influenced to locate nearby. Although there is no reason to believe petrochemical projects of any significance will actually be located near the proposed refinery, the promoters would like Phillips to draw a market projection showing about 50% of the crude used as petrochemical feedstock and around 20% of the petroleum products sold on U.S.A. In this manner an accounting in excess of 70% of the crude volume can be claimed in the import allocation application. According to Messrs. Shipp and Young, the Washington representative, Mr. Oscar Chapman, believes an import allocation can be obtained if petrochemical feedstocks and export shipments in excess of 70% by volume can be claimed. Indefinite references have been made to value of percentages.

Within the framework of Mr. Learned's letter we could operate successfully, provided the crude and product prices are reasonable. Our problem in this connection relates to the price we are willing to pay in the form of crude or product discounts for 60,000 barrels per day crude oil import permit.

Any consideration to establishing petrochemical production in Puerto Rico by Phillips would be a step towards competing with ourselves out of Houston.

Please direct the course of action you wish us to pursue. Our files are attached for your review. The studies, prepared by UOP on behalf of the promoters, are wholly unrealistic and can be used only as extreme examples.

Sincerely,

BEST COPY AVAILABLE

PX-15

ORIGINAL STORED AT
A.D. PIRCHBECK

3

P- 100,Letter, Shippee to Chapman, March 20, 1963

P100

E 1011

March 20, 1963

PLF
DEPT EX 196 FOR 50!
C. MOSES 10/25 19_7

Mr. Oscar Chapman
Chapman and Friedman
425 13th Street, N. W.
The Pennsylvania Building
Washington, D. C.

Subject: Core Plant for Puerto Rico

Dear Mr. Chapman:

Mr. Young and I met in Phillips office with Dr. Fischbeck, Mr. Page, Mr. Smith of Phillips, and Mr. Terraputen of Brown and Root on Wednesday.

After reviewing the project, Dr. Fischbeck outlined the marketing considerations and proposed a type of plant to meet the requirements. Mr. Terraputen of Brown and Root confirmed that this plan for a core plant was exactly as he had conceived it also.

Dr. Fischbeck then proposed that Phillips take our project outline as a guide and bring it up to date with current price and engineering cost of the plant, etc. He proposed to rerun the presentation through their marketing and engineering division and give back to us the finished product ready for presentation to Washington. This would be put in your hands early in May.

In addition, to the completed report, there will be a quantity of marketing reports which explain the project outline excepting the fiscal and engineering details.

We talked at length the objective of a maximum in chemical feed stocks, and they are projecting a ten year profile of feed stock utilization by a growing chemical industry.

XEROX COPY XEROX COPY XEROX COPY

If questions arise, I shall contact you. If you have any thought, please write me.

Kind Personal Regards,

NMS:lb

N. M. Shippee
Chairman of the Board

cc: Mr. Robert B. Anderson
Mr. Jesus Diaz-Hernandez
Mr. Jack Coan
E. M. Warburg Company (Attention: Mr. Donald Blinken)

P- 101,Letter, Shippee to Fischbeck, April 3, 1963

E 101 3

PRUDENTIAL OIL CORPORATION

DIVERSIFIED DRILLING INVESTMENTS

21 WEST PUTNAM AVENUE GREENWICH, CONNECTICUT

TELEPHONE CODE 203 NORMANDY 1-9200

APR 4 1963

NEW YORK CITY OFFICE
ROOM 2707
ONE ROCKEFELLER PLAZA
CODE 212 JUdson 2-3123

April 3, 1963

file

Dr. Dale Fischbeck
Phillips Petroleum Company
80 Broadway
New York, New York

Dear Dale:

We should like to express again our appreciation for your interest in advancing the project for a core plant for Puerto Rico. Your suggestion to rework the project based on today's economics has given a great cohesiveness to the undertaking.

I wrote to Mr. Chapman immediately following our conference and gave copies to Mr. Anderson, Mr. Diaz-Hernandez and our financial advisors in which I stated that Phillips had begun reworking our project with up to date figures, and should have the finished product ready in May. I stated that the primary object of the recommended plant was to provide a maximum in chemical feed stock for a growing chemical industry over a period of years. Attached is a copy of the letter.

Please contact me or Tom Young if questions arise.

Sincerely,

Nott

NMS:lb

N. M. Shippee

enc.

EXH. NO. 170
DONAH. REPORTER

P-102,Letter, Parker to Coan, April 9, 1963

E 1014
P102

PHILLIPS 66

INTER-OFFICE CORRESPONDENCE / SUBJECT: Commonwealth Refinery -
BARTLESVILLE, OKLAHOMA Petrochemical Puerto Rico Possibilities
New Puerto Rico Refinery Project

April 9, 1963

RECEIVED
APR 11 1963
IN THE OFFICE OF
MILLER W. CONN

Mr. M. W. Conn
New York Office

Dear Miller

Following conversations with Messrs. Keeler and Hewitt recently, I believe that there is no need to push this matter further. Therefore, this file can be closed, as suggested by Mr. Elliott in his letter of March 25.

I do understand that Mr. Keeler has informed the promoters of a Puerto Rico refinery that when they have obtained a quota allowance, we will be interested in talking to them.

In the meantime, I believe there is nothing further to be done on the new Puerto Rico refinery project.

I mentioned this casually to Mr. Page when he was in my office last week.

Very truly yours,

Paul -

Paul J. Parker

PJP:lm
cc: Messrs. Stanley Learned
W. W. Keeler
W. C. Hewitt

PX-16
2-9-72
4 Y63

P- 103, Memorandum of F.T. Page. April 10, 1963

P 103

E 1015

April 10, 1963
FTP-213-63

MEMORANDUM RE: PRUDENTIAL OIL CORPORATION

We have been advised by Mr. Parker that until further notice on any future inquiries from this Company, i.e. Mr. Nate Shippee, Tom Young, etc. that we should refer them to Mr. Oscar Chapman who has recently discussed the entire matter with our Mr. W. W. Keeler.

For your private information, Mr. Keeler has told Chapman that when Prudential receives a quota for its proposed petrochemical project in Puerto Rico we will then be prepared to discuss a supply of crude oil, taking the products, etc.

F. T. Page

FTP/vw

cc: Mr. Miller W. Conn (r) R. E. Elliott
~~Mr. A. D. Pischbeck~~ (r) C. M. Broonor

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PX-17
For I. D
2-9-72
W.S.

3

Z63

P- 105,Letter, Cunningham to Shippee, April 11, 1963

E 1016

P105

LAW OFFICES
CHAPMAN AND FRIEDMAN
PENNSYLVANIA BUILDING
WASHINGTON 4, D. C.
EXECUTIVE 3-3234

OSCAR L. CHAPMAN
MARVIN L. FRIEDMAN
MICHAEL J. SHEA
BRUCE E. CLUBB
PAUL A. LENZINI

DENVER ASSOCIATES:
GORSUCH, KIRGIS,
CAMPBELL, WALKER AND GROVER
EQUITABLE BUILDING
DENVER 2, COLORADO

April 11, 1963

Mr. N. M. Shippee,
Chairman of the Board,
Prudential Oil Corporation,
21 West Putnam Avenue,
Greenwich, Connecticut.

Dear Mr. Shippee:

Your letter to Mr. Chapman dated March 29, 1963 arrived just a day or two before Mr. Chapman was confined to his home by illness.

In talking to him by phone today he asked me to write you to tell you he was very pleased by your report.

He has had further reports from Brown & Root and they, too, are pleased with the progress being made.

He asked me to tell you that he is looking forward to receiving the complete package of your market study as soon as it is ready.

1/4

Very truly yours,

Helen E. Cunningham

Helen E. Cunningham,
Secretary to Mr. Chapman.

EX 201 FOR ID
10/25 72

P- 106, Letter, Shippee to Fischbeck, April 22, 1963

P 106
E 101
APR 23 1963

#4982

April 22, 1963

Dr. Dale Fischbeck
Phillips Petroleum Company
30 Broadway
New York, New York

Dear Dale:

Attached letter re: Mr. Chapman, for your information.

Do you have a completion date in sight for the report?

We shall begin the schedule of final steps as soon as you have the report in hand.

Kind Personal Regards,

PRUDENTIAL OIL CORPORATION

Nathan M. Skippee
Chairman

NMS:lb
enc.

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432-DM
9-10-73

4/22/63 E 1018

Dick, I showed the attached to FTP who says, to his knowledge, no report is due from Phillips - that Keeler had told Chapman we would wait for their advice of an oil quota. Unless you have other further knowledge of this, will hold for Dale's return.

Jerry

Attached to Px 171

4

PLF. H-71

P- 107, Letter, Fischbeck to Shippee, April 29, 1963

4-16-70 P 107 E 1019

PX-15

PHILLIPS PETROLEUM COMPANY
NEW YORK 6, N. Y.
80 BROADWAY PHONE DIGBY 4-3600 CABLE PHILPETE - NEW YORK

INTERNATIONAL DEPARTMENT
SALES AND DEVELOPMENT DIVISION
PETROCHEMICAL PROJECTS DEVELOPMENT

April 29, 1963

Puerto Rico Refinery Proposal
ADF-49N-03

Mr. M. M. Shippee
Chairman
Prudential Oil Corporation
21 West Putnam Avenue
Greenwich, Connecticut

Dear Mac:

Having been away from New York during much of this month, I have been unable to return to you sooner on the subject of our recent meeting on March 27. Your letter of April 22 arrived during my absence, but I understand Mr. Page discussed the matter with you to clarify the apparent misunderstanding regarding Phillips' participation in further engineering and marketing studies.

Following our meeting of March 27, the proposal outlined was brought to the attention of Phillips' management for consideration. It was decided that any detailed studies on the part of Phillips would be premature at this time, and that our further interest in the project will depend upon the prior establishment of an import quota. I understand Mr. Coupman has been advised by our management of the Phillips' position.

We regret that our decision concerning these proposed studies was delayed in reaching you and that, as a result, this understandable confusion came about.

Very truly yours,

A. D. Fischbeck

A. D. Fischbeck, Manager
Projects Development

ADF:dmg

READ COPY READ COPY

P- 108, Letter, Shippee to Anderson, April 29, 1963

P108

DEx 30 ind
4-16-70 JB

E 1020

April 29, 1963

Mr. Robert B. Anderson
1 Rockefeller Plaza
New York, New York
Suite 2700

Dear Bob:

As I described to you, Dale Fischbeck had suggested that Phillips re-draw the engineering presentation of the petro-chemical core plant in Puerto Rico based on a simplified process.

This was to be available in May.

Dale left for Europe the day after this arrangement was made, and just returned this weekend. He advised me this morning by phone that this arrangement had been held up on the basis that it would not be made until after a quote was received. Dale was not aware of this decision until his return this morning.

We are now proceeding with our presentation of the original plan for a petro chemical plant. However, it will not be as meaningful as the program envisioned by Brown and Root and Dr. Fischbeck. If there is any area of re-consideration for Phillips to supply us with the simplified plan prior to our presentation, it might help the outcome.

In any event, we are proceeding with our schedule to present the plan through Mr. Chapman by mid May.

Kind personal regards,

N. M. Shippee
Chairman

NMS/as

BEST COPY AVAILABLE

P- 112 ,Letter, Shippee to Chapman, May 29, 1963

E 1021 P112
D/1 Ex 78 /510
4th pw

May 29, 1963

Mr. Oscar Chapman
4975 Hillbrook Lane, N. W.
Washington 16, D. C.

Dear Mr. Chapman:

Under separate cover we are sending you two packages containing the project for the Petrochemical Plant in Puerto Rico. One package contains a blue cover presentation which is the original document. The second parcel contains two brown cover presentations which are duplicates of the original.

Please call me on any questions relating to the material.

Sincerely,

PRUDENTIAL OIL CORPORATION

NMS:lb

N. M. Shippee
Chairman of the Board

P- 118, Letter, Shippee to Anderson, June 13, 1963

DEx. 39 id.
4-17-70 JL

E 1022

June 13, 1963

Mr. Robert B. Anderson
Rockefeller Plaza
New York, New York

Dear Bob:

In a separate mail I sent you a copy of our letter to Oscar Chapman, and subsequently discussed with him a meeting in New York any time convenient to you. He suggested June 28th or 29th since he will be in New York for luncheon on Friday, June 28th, and would meet later in that day or stay over night if it were more convenient for you.

He would like to cover the following points:

1. To proceed without E. M. Warburg Company, Inc.

2. To implement the presentation with additional marketing information which may be obtained from Phillips through your good offices.

3. Provisions for allocation of shares for the insiders.

I should like to review this with you next week and if it fits your schedule, confirm it with Mr. Chapman. I shall call you shortly.

Kind Personal Regards,

Nate

Nathan M. Shippee

NMS:lb

P- 122,Telex, Conn to Fischbeck, August 9, 1963

P 122

E 1023

5 NY32

NEW YORK 3.18 AUG 9( )63 22-40

URGENT PLEASE PHONE MESSAGE

PLF
DEFT EX 243 FOR ID.
R. JACOBS 1/16 1973

A D FISCHBECK

C/O C J WATSON

466 A3

BVILLE

INFO COPY

U U KEELER

708A FPB

P J PARKER

713A FPB

SUGGEST YOU BRAINSTORM SOMEWHAT WHAT WITH MR KEELER REGARDING A PET-
ROCHEMICAL
COMPLEX IN PUERTO RICO PRIOR TO YOUR DEPARTURE FROM BARTLESVILLE
AM ATTEMPTING TO TELEPHONE YOU MGM REGARDING CERTAIN SUGGESTIONS I HAVE
SUGGEST IF POSSIBLE YOU AND KEELER TELEPHONE ME REGARDS

EF 768

H U COOK

BEST COPY AVAILABLE

P- 124, Memorandum of Miller W. Conn, September 27, 1963

INFO

P124

E 1024

INTER-OFFICE CORRESPONDENCE / SUBJECT: TELEPHONE CONVERSATION WITH MR. OSCAR CHAPMAN
New York Office

September 27, 1963
AWC-390-63

MEMORANDUM

The matter of the Puerto Rican refinery - petrochemical complex, particularly with respect to its status, was reviewed by telephone with Mr. Chapman this afternoon. This telephone conversation is summarized as follows:

1. I advised Mr. Chapman that we had developed and discussed with top management a refinery - petrochemical complex with an estimated investment of the order of $200 million, approximately $100 million investment in Puerto Rico alone with the remainder about equally divided between the continents of Africa and Europe.

2. In our long discussion with management this morning, they requested we refine some of our figures and develop one additional calculation which I would be in position to discuss with him in Washington the week of October 14th.

3. I will visit with him in Washington the week of October 14th in any event—meaning whether or not our revised report is ready at that time.

4. Mr. Chapman stated that the "new rule" about which he spoke to Mr. Keeler, was a proposal whereby those importers engaged in petrochemical undertakings, and, I believe he included also exports, would be given preferential treatment in the case of import quotas. This, of course, does not influence or change the premises of any calculations but certainly is a plus in favor of the project.

PX-24
For I.D.
7-9-72 w.d

E 1025

I reasoned with Mr. Chapman that Mr. Keeler had expected our International Department - Management meeting to be concluded Thursday afternoon, which would permit either Mr. Hewitt or Mr. Parker to make a hurried trip to Washington and visit with him this morning. Inasmuch as we had not been able to conclude that meeting and due to other commitments of Messrs. Hewitt and Parker, they were unable to get down there to see him.

Mr. Chapman thoroughly understood this situation and with the information given him in this telephone conversation, he stated that he was completely satisfied with the program. This was particularly true when I told him that we had spent about one hour on this particular discussion alone, which is a measure of management interest in this vast international project.

While I told him that I understood from Mr. Keeler that we had a little more time in view of the fact that the so-called "summit meeting" in Washington would not take place until December, nevertheless, I was not taking advantage of this fact but instead was pushing full steam ahead in the most expeditious fashion possible. Suffice it to say that Mr. Chapman was well pleased and is looking forward to seeing me during the week of October 14th.

Miller W. Conn

MWC/ec

cc: Paul J. Parker (r) W. C. Hewitt
R. E. Elliott
R. M. Waldby
Puerto Rico Folder

THIS COPY FOR

P- 127,Telex, Conn to Parker, October 22, 1963

E 1026
P/27

#NY30

NEW YORK 1-10 OCT 22 1963 22-40

PAUL J PARKER

713 A FPB

SR

FLF
EX 468 FOR ID.
R. JACOBS 1/17 1973

REFERENCE PEA PROJECT CHAPMAN TELEPHONED JUST NOW AND I GAVE HIM THE SAME ABBREVIATED REVIEW OF THE PEA PROJECT AS I GAVE TO YOU CHAPMAN STATED THAT HE WOULD CONTACT BILL KEELER IN THE NEXT DAY OR SO IN ORDER TO WORK OUT THE RELATIONSHIP BETWEEN KEELER CHAPMAN ANDERSON ETC THE SAME AS YOU AND I DISCUSSED THIS MORNING THIS IS FOR YOUR INFORMATION

HILLER W KONN

EE-263

Told W.W.K.
10-23-63

P- 128, Telex, Conn to Parker, October 22, 1963

FRA1
WY67

NEW YORK 5-00 OCT 22 1963 22-40

P128

E 1027

PAUL J PARKER
713 A FPB
BR

REFERENCE PEA PROJECT AND CONFIRMING TELEPHONE CONVERSATION THIS MORNING

I HAD A VERY CORDIAL MEETING IN WASHINGTON LAST FRIDAY WITH OSCAR CHAPMAN WHO PUT US IN CONTACT WITH HIS NEW YORK REPRESENTATIVE JACK COAN OF OMEGA MANAGEMENT COMPANY COAN FIXED APPOINTMENT WITH THE HONORABLE J DIAZ- HERNANDEZ EXECUTIVE DIRECTOR ECONOMIC DEVELOPMENT ADMINISTRATION COMMONWALTH OF PUERTO RICO NEW YORK FOLLOWING THE MEETING WITH CHAPMAN WE ADOPTED AND DISCUSSED WITH DIAZ- HERNANDEZ THE FOLLOWING PROGRAM

1 A TRI- CONTINENTAL REFINING - PETROCHEMICAL OPERATION YIELDING SELECTED CRUDES AND CRUDE FRACTIONS IN THE AMOUNT OF 50,000 BARRELS PER DAY CHEMICAL FEEDSTOCK TO PUERTO RICO THE FULL IMPORT OF WHICH WOULD BUILD UP FROM A MODEST INVESTMENT BEGINNING OVER A PERIOD OF A FEW YEARS

2 AN ENLARGED FREEHAN D DRAWING OF THE PUERTO RICAN PETROCHEMICAL COMPLEX GIVING ONLY THE IDENTITY OF THE CHEMICALS TO BE MANUFACTURED WAS DISPLAYED

3 A BREAKDOWN OF THE ESTIMATED COSTS OF THE SEVERAL CHEMICAL UNITS IN TOTAL AMOUNT OF $110 MILLION WAS ALSO DISPLAYED NEEDLESS TO SAY SR DIAZ- HERNANDEZ WAS DELIGHTED AND STATED THAT OUR APPROACH IN HIS OPINION WAS THE ONLY ONE THAT HAD EVER BEEN PRESENTED THAT HAD ANY CHANCE OF REALIZATION

4 A PROGRAM OF PROCEDURE WAS ADOPTED INCLUDING THE PREPARATION OF A BROCHURE PROPOSAL IN COOPERATION WITH THE LOCAL PUERTO RICAN AUTHORITIES THE DEVELOPMENT OF CERTAIN ON THE GROUND INFORMATION WITH RESPECT TO SITES HARBORS RAILWAY AND HIGHWAY FACILITIES UTILITIES AND ETC IN COOPERATION WITH THE SAN JUAN OFFICE OF THE ECONOMIC DEVELOPMENT ADMINISTRATION A SUMMIT MEETING BETWEEN TOP OFFICIALS OF PHILLIPS THE PUERTO RICAN GOVERNMENT TOGETHER WITH OSCAR CHAPMAN FOR FINAL PREPARATION FOR PRESENTATION OF THE PROGRAM TO THE OIL IMPORT CONTROL AUTHORITIES IN WASHINGTON

ROY WALDBY ARRIVING A BARTLESVILLE NOONTIME TOMORROW TO PRESENT COLOMBIAN LUBRICATING OIL PROJECT TO OPERATING COMMITTEE THURSDAY MORNING AND OTHERWISE TO INITIATE POSITIVE UPGENT ACTION IN IMPLEMENTING THE AFOREMENTIONED PEA PROGRAM ANY ASSISTANCE THAT YOU MR KEELER ETC CAN GIVE HIM WILL BE APPRECIATED

MILLER W CONN

BEST COPY AVAILABLE

P- 129, Memorandum, Conn to Parker, November 4, 1963

P129

E 1028

PX-35
For I.D
2-10-72 w d.

New York Office

November 4, 1963

CONFIDENTIAL

Mr. Paul J. Parker
International Department
713A Frank Phillips Bldg.
Bartlesville, Oklahoma

Dear Paul:

Confirming my telephone conversation, I submit the following information regarding the course of dealing with Oscar Chapman in connection with the PEA project.

Just following my last trip to Washington it was obvious that we were involved in an obligation to possibly Bob Anderson and Oscar Chapman. As regards Bob Anderson I have always understood that the relationship between him and Phillips is one that is well established and understood. However, as regards Oscar Chapman, I knew or contemplated that the arrangement was one to be negotiated.

When he injected Jack Coan into the act on the occasion of my last trip to Washington I elected not to mention the matter to him, and particularly so, when I suspected that this was a matter that would be handled on a Washington - Bartlesville level. However, when Mr. Coan came to my office on Monday, October 21st, I raised the question regarding from whom he was expecting remuneration or compensation for services rendered in this connection. He spoke rather freely and frankly in saying that he was looking to Oscar Chapman solely for his compensation. He went on to say that Mr. Chapman wanted to cast himself in the role of counsel for Phillips appearing before the Oil Import Control authorities on behalf of their import request. As compensation for services rendered, Mr. Chapman wanted a share participation in the Puerto Rican venture, but no amount was indicated.

Mr. Coan said that Oscar Chapman was nearing 70 years of age and while he had had more than the average success in his chosen profession, he had accumulated substantially little or no estate. Chapman has a relatively young wife and a 19 year old son and wants to leave this participation in the contemplated Puerto Rican venture in an estate for his family. The

FFF63

E 1029

Injection of Jack Coan, who operates a business under the name of Omega Management Corporation, into the picture would indicate that Chapman is certainly looking for some cash consideration. I believe that you and Messrs. Learned and Keeler are more qualified than we to determine what such services as Chapman would render for us are worth to Phillips Petroleum Company. It seems that an equitable approach to the situation would be a cash consideration to adequately cover their expenses plus a small profit together with a share participation for Chapman which would inure to him only as the company became profitable.

Very truly yours,

Miller W. Conn

MWC/ec

P- 138,Letter, Shippee to Anderson, December 19, 1963

USA 33s - 475
(ED. 4-23-71)

PLAINTIFF'S
EXHIBIT 1D
U. S. DIST. COURT
S. D. OF N. Y.

138

FPI-NI—9-24-75-50M-4417

E 1030

December 19, 1963

Mr. Robert B. Anderson
Suite 2700
No. 1 Rockefeller Plaza
New York, New York

Dear Bob:

Jack Coan visited Bartlesville, Oklahoma on Monday December 16 and met with Mr. Learned regarding the Puerto Rico Petrochemical plant.

Jack said that the project is coming along nicely.

It may be timely for you to check its status with Mr. Chapman.

Kind Personal Regards,

Nate

NMS:lb

N. M. Shippee

PLF
DEF EX 197 FOR ID
B. JACOBS 10/25 1972

D 8137

P- 147,Letter, Shippee to Chapman, May 14, 1964

PRUDENTIAL OIL CORPORATION

Diversified Drilling Investments

E 1031
P-147

SUITE 1820
ONE ROCKEFELLER PLAZA
NEW YORK, N.Y.
JU 2-3123

May 14, 1964

Mr. Oscar Chapman
Chapman, Ambrose, Choy, Cobb & Duff
930 Pennsylvania Building
Washington, D.C. 20004

Dear Oscar:

I should say that congratulations are in order on the progress you have made with the project for a coke plant for a chemical industry in Puerto Rico.

Today the local papers, both the News and the Journal carried the story (attached) of our project with Phillips.

Under your professional guidance, it has reached maturity, and we now look forward with great anticipation to its final implementation through an import quota.

Bob Anderson is out of the country at the moment, but will be in touch with you when he returns.

Kind personal regards,

H. H. Chippeo
Chairman

pxm

cc: Mr. Robert B. Anderson

bc: Mr. J. Coon
Mr. T. R. Young

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DEx 44 N

P- 148,Letter, Shippee to Diaz-Hernandez

P-198 E 1032

PRUDENTIAL OIL CORPORATION

21 WEST PUTNAM AVENUE GREENWICH, CONNECTICUT

June 4, 1964

Mr. J. Dias-Hernandez
Executive Director
Economic Development Administration
Commonwealth of Puerto Rico
666 Fifth Avenue
New York, New York

Dear Mr. Dias-Hernandez:

Since I had the pleasure of last meeting with you, I have had the experience of an unscheduled landing in an airplane (we crashed at Rochester last summer), and I was out of circulation for some time. However, the project for a chemical core plant in Puerto Rico has progressed, and as was announced recently in the newspapers by Phillips Petroleum, the marketing plan is completed, and the application for an import permit is being pressed.

As soon as it is certain that the import permit will be made available, we will continue our solicitation of chemical companies to establish plants in Puerto Rico because of the advantages of locating there, in addition to the availability of chemical feed stocks from the new core plant.

We will bring the interested parties to you as their interest is identified, and we look forward to having a full circle of "using" plants as a basis for a comprehensive chemical industry in Puerto Rico.

Kind personal regards,

N. M. Shippee
Chairman

prm

bc: Messrs. R. B. Anderson
O. Chapman
J. Conn
T. R. Young

BEST COPY AVAILABLE

203
10/25

P- 151,Memorandum, Shippee to Anderson, July 8, 1964

P-151
E 1063

RUDENTIAL OIL CORPORATION

Diversified Drilling Investments

SUITE 1820
ONE ROCKEFELLER PLAZA
NEW YORK, N.Y.
JU 2-3123

Visited Mr. Durand's office 7/9/64

-- CONFIDENTIAL --

July 8, 1964

RE: Mr. Durand to Testify at Washington Public Hearing on Phillips' Application for Oil Import Quota to Puerto Rico -- July 21, 1964

CC: Mr. R. B. Anderson, Esq.

1. The public hearing on Phillips' Application is scheduled for July 21st. Mr. Chapman is optimistic, and expects Phillips to receive the oil allocation as a result of this hearing.

2. One of the main supporters of the project to testify at the hearing is Mr. Rafael Durand, Administrator - Economic Development Administration, Puerto Rico.

3. Jack Cohn was with Oscar Chapman on Monday in Washington, arranging final details of Mr. Durand's appearance. Mr. Durand expressed the desire to meet Secretary Anderson during his visit to New York this week. Jack Cohn conveyed this message to me, since both he and Oscar feel that it is desirable to cater to Mr. Durand at this important moment.

4. Is it possible to arrange a visit by Mr. Durand to your office this week?

If it is not possible to schedule such a visit with Mr. Durand because of previous commitments, would it be possible for you to telephone him at Circle 5-1200 (666 Fifth Avenue), and express your good wishes for the success of the Phillips' Application at the hearing.

The opportunity of speaking to Secretary Anderson is of some importance to Mr. Durand, since he sought it.

BEST COPY AVAILABLE

DEx 44R

E 1034

5. If the call can be made, Mr. Durand will be located by asking for Mr. Diaz-Hernandez first since Mr. Durand will be in that office from 10 a.m. each day (CIrcle 5-1200).

If the visit can be scheduled, I shall arrange it for whatever time you select.

M.M.S.

pm

bcc: Mr. J. Coan
Mr. T. R. Young
Mr. J. W. Little - File

P-158, Proposal for P.V.C. Plant

D E 1035

PRUDENTIAL OIL CORPORATION

21 WEST PUTNAM AVENUE GREENWICH, CONNECTICUT

PROPOSAL FOR P.V.C. PLANT

IN PUERTO RICO

Prudential Oil Corporation proposed to build and operate a P.V.C. Plant in Puerto Rico, and offer this plant to Phillips at the end of a stated period. To accomplish this, Prudential seeks a back-to-back contract from Phillips for the purchase of monomer and the sale of processed matter.

This proposal has mutual interest for either parties, as outlined below:

General/Sociological:

This plant would qualify for the area development aid, and tax exemption offers of the Commonwealth. It would fulfill one of the stated aims of Phillips Petroleum to foster the growth of the chemical industry in Puerto Rico. It would pre-establish a position in the Commonwealth of Puerto Rico.

Economic/Financial:

1. Phillips would own an option to buy a P.V.C. plant in Puerto Rico as a going concern, without capital outlay.

2. Phillips would obtain a customer for monomer, and a source for P.V.C. under contractual terms which would assure price stability, quality control, and guaranteed supply.

3. Phillips would effectively own a new plant without the burden of management and other problems of start-up.

4. Phillips' contracts would assure a finished cost which would be less than its own costs to manufacture in its own plant.

BEST COPY AVAILABLE

5. Phillips would have the option to acquire the plant at stated year's intervals on a pre-arranged price formula.

6. Phillips would have the election of taking depreciation of the plant upon acquisition, since depreciation would not be used during start-up due to tax exemption.

7. Phillips would hold all of the foregoing advantages and options, but without the obligation of doing anything.

8. Prudential would use Phillips patents and processes wherever applicable.

9. Prudential will use its best efforts and present client contacts to market part of the production in order to enlarge the operation of the enterprise, and to attract consumer product manufacturers to Puerto Rico.

These nine points are based on principles which, when established as sound, can be negotiated in detail to implement the proposal.

1/65

P-159, Letter to Stuart L. Udull, January 6, 1965

E 1041

January 6, 1965

Honorable Stewart L. Udall
Secretary
U.S. Department of the Interior
Washington, D. C.

Dear Mr. Secretary:

I want to advise you that we do not now contemplate the use of North African crude in the Puerto Rican petrochemical complex. This occurred because of our completion of the 100,000 barrel refinery project with ICI in England and other sales which would utilize our now proved production in Algeria and Libya.

Therefore we now anticipate that the raw material for the Puerto Rican petrochemical project will come from Caribbean sources.

Sincerely,

SL:gb

BEST COPY AVAILABLE

DX 363

P- 162, Memorandum, Learned to Waldby, January 11, 1965

P16E 1042

January 11, 1965

INTER-OFFICE CORRESPONDENCE / SUBJECT:
BARTLESVILLE, OKLAHOMA

RECEIVED
PROJECT DEVELOPMENT
JAN 13 1965
FILE SEA
COUNTRY Puerto Rico

MEMORANDUM

From: Stanley Learned

To: Roy Waldby - New York City (International)

I was visited this morning by Bill Wright, who is associated with Bob Anderson in New York, and Mr. Wright was accompanied by Mr. Nathan M. Shippee, Chairman, Treasurer and Director, and Edward J. Willey, Counsel and Director of the Prudential Oil Corporation, One Rockefeller Plaza, New York City. I am attaching to your copy of this memorandum only a file folder on Prudential Drilling Funds and a small pamphlet entitled "The Prudential Drilling Funds". Also I attach to the original and all copies of this memo a copy of a two-page proposal for a PVC Plant in Puerto Rico, which was presented to me by Mr. Shippee. After a short discussion I explained to Mr. Shippee that in reality all he was presenting in this proposal was a financing deal, which we could easily do by ourselves and that we would have no interest in the proposal as outlined, however, if he had a market, which he proposed to develop in item nine of his proposal, then we would like to discuss the matter with him further.

I advised Mr. Shippee that he could contact you in New York on this matter, and he advised that he would probably be in touch with you about February 1st.

Attachments

cc - W. W. Keeler
W. C Hewitt
Attachment

BEST COPY AVAILABLE

Pl's Ex 3 Id.
10/8/80

6

P- 169, Letter, Shippee to Learned, February 18, 1965

P 169

E 1043

PRUDENTIAL OIL CORPORATION

Diversified Drilling Investments

SUITE 1820
ONE ROCKEFELLER PLAZA
NEW YORK 20, N.Y.
JU 2-3123

February 16, 1965

Mr. Stanley Learned, President
Phillips Petroleum Co.
Bartlesville, Oklahoma

Dear Mr. Learned:

Further to our letter of January 14th, we now have a principal who is prepared to write a 5-year contract for a minimum 50 million pounds of P.V.C. The contract will include escalator clauses.

Would you please designate the person with whom we should discuss this potential new market.

We have met with Mr. Waldby to discuss a feed-stock plant in Puerto Rico, and these discussions are continuing. We understand that the Puerto Rico project does not include plans at this time for P.V.C. Therefore, the above market for P.V.C. is considered to be in addition to the project under discussion with Mr. Waldby.

I look forward to hearing from you if you are interested in pursuing the P.V.C. market further at this time.

Sincerely yours,

N. M. Skippee
Chairman

cc: Mr. R. Waldby
Phillips Petroleum Co.
80 Broadway
New York, N.Y.

BEST COPY AVAILABLE

bc: Messrs. R. E. Anderson
W. H. Wright

bbc: Mr. J. Coan

DX 440-1

P- 170,Letter, Shippee to Waldby, May 17, 1965

E 1044
P-170

PRUDENTIAL OIL CORPORATION

ONE ROCKEFELLER PLAZA NEW YORK, N. Y. 10020

May 17, 1965

Mr. R. Waldby
Phillips Petroleum Co.
30 Broadway
New York, N.Y.

Dear Roy:

This short note to say congratulations on the public announcement of the project in Puerto Rico.

I can only imagine the long hours that you have spent over the past several weeks to reach this point.

As soon as your schedule permits, I look forward to the opportunity of seeing you again.

Kind regards,

N. M. Shippee
Chairman

prm

bcc: Mr. Wm. H. Wright

bcc: Mr. J. Coan
Mr. T. R. Young

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DE, 44X

P- 176,Letter, Shippee to Waldby, June 24, 1965

THE PRUDENTIAL DRILLING FUNDS
DIVERSIFIED DRILLING PROGRAMS

PRUDENTIAL OIL CORPORATION • ONE ROCKEFELLER PLAZA, NEW YORK 20, N.Y. • CODE 212 JUDSON 2-31

June 24, 1965

Mr. Roy Waldby
Manufacturing Division
Phillips Petroleum Co.
Bartlesville, Oklahoma

Dear Roy:

This short note to congratulate you upon the press announcement of last week.

I talked with Gordon, and he said that you were between New Jersey and Bartlesville before moving to Puerto Rico.

I should like to talk with you next week, and look forward to seeing you in Puerto Rico later this summer to examine our interest there.

Kind personal regards,

N. M. Shippee
Chairman

prm

cc: Messrs. T. R. Young
E. J. Willey

P- 177, Letter, Shippee to Waldby, July 7, 1965

P-177

E 1046

PRUDENTIAL OIL CORPORATION

21 WEST PUTNAM AVENUE GREENWICH, CONNECTICUT

July 7, 1955

Mr. Roy Waldby
Manufacturing Division
Phillips Petroleum Co.
Bartlesville, Oklahoma

OFFICE
918 FE 6-6600
EXT. 5642

Dear Roy:

This note to confirm my visit to San Juan during the first week of August. I will check with Sam Van Cynding when I arrive.

I look forward to seeing you again.

Kind personal regards,

M. M. Chippee
Chairman

prm

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P- 187,Memorandum, Johnstone to Head, February 9, 1966

cc: S. Learned
W. W. Keeler
W. C. Hewitt
T. L. Cubbage

February 9, 1966 E 1047

Please read and destroy

Mr. A. J. Head
Office

Confirming our discussion, on January 27 C. F. Bethea and I visited Prudential Oil Corporation, located in the General Dynamics Building, New York City, to follow up on prior contacts from them regarding their interest in satellites in Puerto Rico. The discussion was held with Nathan M. Shippee, Chairman of the Board, Edward Willey, Counsel, W. H. (Bill) Wright, and Thomas R. Young (formerly Vice President Houston Chemical Corp.y but now with Prudential). Prudential is of the opinion that Phillips has an obligation to them and has posed what we interpreted to be a potential problem.

There is considerable history regarding the relationship of this company to the Puerto Rican project. At one time they were working on obtaining the import quota and made contact with Phillips. A letter dated in 1962 from S. Learned, which was shown, stated that in the event Prudential obtained the import quota Phillips was prepared to enter into contracts to supply feedstock, purchase petroleum products and assist in engineering of the Puerto Rican facilities. As their dealings with the Puerto Rican Government proceeded and the scope of the project began to take shape, they decided that they could not handle it and, in their words, they turned it over to Phillips.

The tone of the conversation centered around their viewpoint, expressed mainly by Shippee, that they had done Phillips a favor and now it is Phillips time to return the favor. Shippee said that they wanted to get together with us in order to establish the principle with the implementation to come whenever time is suitable. While there had been discussion by others with them regarding possible satellites, our discussion revealed that they have no long term interest in the chemical business and that they want to use the principle outlined in Learned's letter of 1962 to apply to a chemical satellite, i.e., that Phillips supply the feedstock, buy the product and assist in engineering of the project. They, in turn, would grant Phillips an option to buy the facility in a specified time, say, 5 years. Their objective would be to invest for such a period of time and sell the facility for capital gains. It appeared that their interest was in investing something in the range of $6 - $8-million.

I told them that I knew of no specific instance where we would be interested at the present time, however, their approach was actually in more of a financial policy question which I couldn't answer. I mentioned that the investment in some of the satellites would certainly be in advance of profits in Puerto Rico and that purchase of facilities from them after profits are generated might be a possibility, but I would have to better understand their arithmetic. I told them that in my opinion the best approach was for us to simply know of their availability and if in our contacts

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with the numerous companies regarding locating plants in Puerto Rico this particular approach was desired I could get them with the company concerned. I mentioned the textile field and the fact that with our nylon fiber facility going in in Puerto Rico that there was now a basis for attempting to attract nylon consuming plants, and that of the many textile companies there may be a desire to build a textile plant under this type of financing.

The term "now it is Phillips turn to repay the favor" was mentioned at least four times during the hour and half meeting. The latter part of the discussion was held in Bill Wright's office, and while we talked in generalities, he obliquely came through with the message that an oil import quota was worth $1.25 a barrel.

The conversation terminated on the note that I would visit them again on a subsequent trip to New York and learn more about their specific financial approach. At this stage I am in need of advice from those receiving copies of this letter: Is there any obligation on the part of Phillips to Prudential which would make it desirable to seek an opportunity to use their financial approach? Suggestions regarding my approach and attitude toward Prudential will be appreciated.

L. H. Johnstone

LHJ/oz

P- 189,Memorandum, Shippee to Johnstone, February 16, 1966

E 1049
P189

PRUDENTIAL OIL CORPORATION

ONE ROCKEFELLER PLAZA NEW YORK, N. Y. 10020

February 16, 1966

MEMO: ARITHMETIC OF SATELLITE PLANT -- PUERTO RICO

TO: L. H. JOHNSTONE, DIRECTOR
PUERTO RICO CHEMICALS DIVISION

1. CONCEPT:

As consideration for the origination of the finally accepted concept of the core plant in Puerto Rico, Prudential Oil Corporation desires to implement the offer to Phillips Petroleum Co. in their letter of November 13, 1962. The goal is to operate a satellite plant until its debt is retired and then sell it for Capital Gain. Under the following method we believe that we can accomplish our goal without cost to Phillips.

2. METHOD:

A satellite chemical plant costing $6,000,000 more or less will be built wherein we would expect to obtain 100% financing from banking sources. Phillips may or may not engineer the plant, at their choice.

If the raw materials are petroleum (exception would be a chlorine plant) they will be obtained from Phillips. It is expected that Phillips will take a part of the product, and we will market the rest. When Phillips purchases our plant, they would also acquire the new markets developed by us.

Dept'd 136-Ltr
5-6-70 JK

Profits, being on a tax-free basis, will be used to retire the debt over perhaps 6 to 8 years. At that time Phillips will have an option to buy the company at book value, which may be $6,000,000.

Under the "plow-back-of-profits" requirement of Phillips to the Commonwealth, if Phillips wishes to purchase our satellite earlier, we would sell the plant for capital cost at that time, provided they assumed the unpaid debt.

This method could accomplish our goal without cost to Phillips. It also fits Phillips' goals of:

a) Establishing a satellite plant;
b) Setting up a property which they can use in the "plow-back" of profits which they are obligated to do;
c) Projecting their ownership in a vital area;
d) Acquiring the marketing results of our operation, when they purchase the plant.

3. PRODUCT:

The nature of the project is such that the product choice must be made joint with Phillips, as an integral part of their over-all planning.

N. M. SHIPPEE, CHAIRMAN
PRUDENTIAL OIL CORP.

prm

cc: Messrs. R. B. Anderson
E. J. Willey

P- 200,Letter, Zeman to Shippee, June 9, 1966

P-200 E 1051

PHILLIPS PETROLEUM COMPANY

BARTLESVILLE, OKLAHOMA

June 9, 1966

WM. J. ZEMAN
VICE PRESIDENT AND
GENERAL COUNSEL

Prudential Oil Corporation
One Rockefeller Plaza
New York, New York 10020

Attention: Mr. N. M. Shippee

Dear Sir:

Since the conference in Mr. Robert B. Anderson's office on May 5, 1966, at which you, Mr. Anderson, Mr. Learned and I were present, we have had an opportunity to review not only the documents submitted to us by you at the conference and by Mr. Willey in your office immediately following the conference, but also the documents in our various files which might even remotely relate to the subject of the conference. Additionally, a more extensive review of the subject with any of our representatives who had any contact with the project insofar as Phillips Petroleum Company is concerned has been concluded.

All this leads us even more forcefully to the conclusion expressed in the conference, i.e., that Phillips Petroleum Company has no obligations, expressed or implied, to either Prudential Oil Corporation or to you personally. Consequently, any further conferences or negotiations relating to your claim would be of no avail.

Very truly yours,

Wm. J. Zeman

WJZ:ch

cc: Mr. Robert B. Anderson
Mr. Stanley Learned

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P- 214, Request for Oil Import Allocation, January-June, 1963

P-214

4-16-70 E 21052

P-214

P-214-E

~~PUERTO RICO OIL & PETROCHEMICAL COMPANY~~

REQUEST FOR OIL IMPORT ALLOCATION

~~WORK BOOK~~

Puerto Rico Oil & Petrochemical Co.

San Juan, P.R. - New York, N.Y.

June
~~January~~, 1963

P-214C

E 1053

THE PRUDENTIAL BULLETIN

DIVERSIFIED DRILLING INVESTMENTS

PRUDENTIAL OIL CORPORATION • 21 West Putnam Ave., Greenwich, Conn.

J. W. LITTLE, II, *Vice President*

Mr. Richard Holland

To reproduce 10 copies of the attached, please

J. W. Little

report is submitted for the general information of the participants of the FUND. It is not authorized for distribution to prospective participants in any FUND unless preceded or accompa effective Prospectus which includes information regarding the FUND's objectives and policies, experience of its management, marketability of product, sales charges, and other informa

E 1054

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CHAPTER 6	-	FINANCIAL PLANNING
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~~N. M. Shippee~~
~~1952~~

REPORT IN BRIEF

E 1056

REPORT IN BRIEF

The purpose of this report is to outline the project for a petrochemical core industry as an essential part of the economic development of Puerto Rico, and to request an oil import allocation to establish this new industry.

NEED FOR A PETROCHEMICAL INDUSTRY

The economy of Puerto Rico will benefit by the establishment of a company whose express purpose is the development of a petrochemical industry.

Recent industrial development on the Island has resulted in the employment of primarily female labor. It is now urgent that new industry be directed towards the employment of male labor.

This industry will be the means by which a critically depressed area will be transformed into a strong, economic community.

A petrochemical industry will provide a major construction program; a major area development; an immediate petrochemical feed plant; and future petrochemical plants. This program is all based on continuing growth in this area of construction, operation, and new development in a continuing growth cycle, including support industries.

A petrochemical industry will compensate for the lack of indigenous raw materials on the island and will revive interest by U.S. chemical companies in establishing subsidiaries in Puerto Rico.

(See Chapter I)

CORE PLANT REQUIRED

The growth of a petrochemical industry depends upon a core plant to supply petrochemicals and chemical feed stocks. These products will compensate for the lack of natural resources and will provide raw materials for a petrochemical industry.

From a practical standpoint and in order to be economic, the plant must also recover and market the residual petroleum products which will be quite substantial, particularly in the early stages of operation, while additional petrochemical outlets are being developed.

The core plant is not to be a static specific refinery or petrochemical plant, but a flexible petrochemical raw material feed plant which will continue to supply additional petrochemical raw materials as they can be used.

The establishment of a core plant of this type is therefore the essential first step in the establishment of a growing petrochemical industry in Puerto Rico.

(See Chapter II)

ACTION BY COMMONWEALTH OF PUERTO RICO

To implement the establishment of this project, the Commonwealth of Puerto Rico has agreed to clear and provide land, housing facilities, necessary building permits, assistance for support industries, port installation at Mayaguez, and other necessary related facilities.

The Commonwealth has stated that this project is of the highest economic priority, should proceed with utmost dispatch, and has their full support.

(See Chapter III)

COMMERCIAL IMPLEMENTATION

The purpose of the Puerto Rican Oil and Petrochemical Company is stated in the first paragraph of its charter, as follows:

> "The company is formed for the express purpose of developing a chemical and petrochemical industry in Puerto Rico. It will design and build a refinery to produce, initially, sulfur, aromatic petrochemicals and petroleum products. This refinery will be the basis of and feed plant for the petrochemical industry as it grows. The refinery will be designed so that petrochemical side streams can be withdrawn in the future. When these side streams are needed, the company will install the necessary additional facilities to purify them. The company will also promote additional chemical and petrochemical projects related to the development of the petrochemical industry."

Arrangements have been made with Phillips Petroleum Company to supply crude oil and to market the petrochemical and related petroleum products.

Sulfur will be marketed by PROPCO.

Monsanto Chemical Company has identified its interest in a chemical feed stock of high wax content.

Other petrochemical companies have expressed their interest in feed stocks for different petrochemical end products. These will be pursued and developed as soon as an oil import allocation is authorized.

A fueling station is planned for ships passing through the Mona Passage. This will be available to supply both commercial and military vessels.

In addition to providing a core industry necessary for the basic economic growth and development of Puerto Rico, the proposed company will place many American companies who wish to participate in a strong position to compete for world business.

PROPCO also proposes to build a satellite plant adjacent to the core plant to produce lead antiknock additives.

PROPCO dollar sales volume is ~~estimated to be approximately 20% petrochemicals~~ expected to be 53% petrochemical and "non-quota" petrochemical fuels initially. As satellite petrochemical plants are built, the ratio of petrochemical sales will, of course, increase. (See Chapter IV)

ENGINEERING PLANNING

Universal Oil Products Company has made a site investigation and has worked up a preliminary set of plans for the refining of Venezuelan crude to produce aromatic petrochemicals and petroleum products.

In order to be practical from an economic and marketing standpoint, these plans have been drawn up so the core plant will start up and operate with a minimum of difficulty, yet be so designed that side streams can be withdrawn for the separation and purification of petrochemicals as markets are developed or as they can be used by other companies for chemical feed stocks.

These plans include both capital and operating cost estimates, site recommendations, personnel requirements, and an estimated net operating income.

(See Chapter V)

FINANCIAL PLANNING

On the basis of the Univeral Oil Products Company's engineering investigation, representatives of E. M. Warburg Company and Kuhn Loeb have worked up a financial plan for this project. This plan provides for maximum participation by citizens of Puerto Rico.

(See Chapter VI)

STATUS OF PROJECT

Preliminary planning, selection of key personnel, and all other practical steps have been completed to initiate the project. Necessary assurances have been given to and received from the Commonwealth of Puerto Rico, and raw material

supply and marketing arrangements have been made.

Before the construction of the core plant can be contracted, it is necessary to establish that crude petroleum will be available for the use of the company. Under the proclamation of March 10, 1959, "adjusting and Regulating Imports of Crude Oil and its Principal Products into the United States," there was a finding that...

> "The Commonwealth of Puerto Rico largely depends on imported crude oil...and that...the adjustment of imports...should permit imports into Puerto Rico adequate for the purposes of local consumption, export to foreign areas; and limited shipment of finished products to the Continental United States."

For reasons previously outlined, the need of a petrochemical industry for the Commonwealth has been given top priority in the economic development program.

The project needs only a license to import crude oil as raw material for its core plant to become a reality.

REQUEST FOR ALLOCATION

A request for the allocation of 60,000 barrels per day of crude oil under the import quota allowance is hereby respectfully requested in order to proceed with this project for the establishment of a petrochemical industry in Puerto Rico.

///

CHATTERJI

CHAPTER I

NEED FOR PETROCHEMICAL INDUSTRY

Until recently the growth of the chemical industry in Puerto Rico has progressed rapidly. This progress has been remarkable because of the lack of natural resources on the island. A start has been made in petrochemicals by Union Carbide Caribe and Caribe Nitrogen with the manufacture of ethylene glycol and ammonia respectively.

However, recent plans for additional petrochemical plants have been either postponed or abandoned, and it is apparent that raw materials not otherwise available must be imported and extracted from petroleum.

The natural resources of Puerto Rico have been investigated* and found to be practically non-existant, except for sand, limestone, salt water, fresh water and sunshine. With fertile soil and fertilizer, sugar and its products are produced. This means the available raw materials for a chemical industry are sand, limestone, salt and sugar. Other materials must be imported or extracted from petroleum by a petrochemical industry.

The products which can be extracted from petroleum when combined with the products which can be produced from the other raw materials can form the basis of a thriving and continually growing chemical and petrochemical community.

Recent industrial development on the island has been primarily in industries requiring female employment. Male employment has increased to some degree, but unemployment among men is still over 10%. Many of the unemployed are high school graduates who are ready and willing, but unable to find work.

The chemical and petrochemical industries are among the most rapidly growing industries today primarily employing male labor. The petrochemical industry is growing faster than the balance of the chemical industry and is accounting for the majority of the new investment in the chemical industry. In the period 1959 through 1961 approximately $3 billion was spent by the chemical industry for new plant construction. Of this, 61.4% was for petrochemical plants, 12.9% related to petrochemicals, and only 25.7% was for non-petrochemical construction.

In 1955 petrochemical production amounted to approximately 15 million tons, and in 1965 it is estimated to be over 40 million tons.

Concurrent with the establishment and growth of such an industrial community will be the redevelopment of a critically depressed area, the employment of male labor, and the establishment of support industries in related fields. This activity will require a continuing need for construction labor as well as predominantly male operating labor as each facility is completed.

The establishment of substantial communities, based upon support industry in the forms of machine shops, pipe shops, metal fabricating and welding shops,

and electrical repair shops will also all result in increased male employment.

The need for a petrochemical industry in Puerto Rico is expressed in a report dated September, 1961, by the Commonwealth of Puerto Rico Office of Economic Research, entitled "The Chemical and Allied Products Industry in Puerto Rico"** and quoted in part below:

"There are several reasons why great importance is attached to the need for an expanding petrochemical industry...

1. A local petrochemical industry could substantially compensate for the island's lack of indigenous raw materials.
2. The industry affords permanent employment at relatively high wages.
3. The industry offers predominantly male employment; an offset to the fact that new employment opportunities generated by our development program to date have been largely female jobs (60%).
4. Because of the magnitude of petrochemical projects, a substantial volume of constructive employment and income is generated in the adjoining areas."

When this report was written, the following chemical and petrochemical projects were contemplated:

Polyethylene by Union Carbide Caribe

Naphthalene by Commonwealth Oil

Phthalic Anhydride by Stepan Chemical

Chlorine & Caustic Soda by Morton Chemicals

These projects have all been either postponed or abandoned. Some have been carried out elsewhere.

new opportunities are constantly arising. As an example, 1069
the Puerto Rican Industrial Commission
plans for a 5,000,000 pound per year phthalic anhydride
plant. Representatives of the company
have told us that the feed stock
required is not available in Puerto
Rico and that it must
[illegible]
Steel has requested
[illegible]
manufacture
[illegible]
regulations.

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E 1069

Other petrochemical projects recently abandoned or postponed are listed below:

Polyethylene by U.S.I. Chemical Division of
National Distillers

Lead Antiknock Plant by Stepan Chemical

~~It is certain that many of~~ These projects ~~will~~ may be revived by these same companies or by others if a petrochemical industry is established to provide feed stocks and/or markets for them.

(Insert A)

The potential petrochemical complex is shown by a series of charts (No. 1 through 10) prepared by the Ralph M. Parsons Engineering Company. Chart 1 shows the primary products (petrochemical intermediates) which can be made and is the index to the other nine charts. On Chart 1 the top six primary products can be made from either petroleum or natural gas; the lower products can be made only from petroleum.

The company intends to make the petrochemical products which can be made only from petroleum at first. These are the aromatics and the products which can be made from them are shown in Charts 8, 9, and 10.

The end products will eventually range from insecticides, herbicides, and solvents from the chlorinated hydrocarbons to synthetic fibers and film of the "Nylon," "Dacron," and "Mylar" type. The former will supply agricultural and dry cleaning industries and can be further processed chemically to make other chemicals such as Freon, which is used extensively in air conditioning systems and as an aerosol propellent. The latter is only representative of one of the types of products which can be made. Nylon is the best materials for commercial fish nets which could be manufactured for export and to supply the fishing vessels which supply the islands canneries. The list of possible products is beyond the scope of this report, and several volumes would be required for a complete listing of all possible future outlets.

*References to Natural Resources of Puerto Rico

E 1071

Limestone & Marble Resources of Puerto Rico, 1958

Preliminary Report on Silica Sands of Puerto Rico, 1958

Preliminary Report on Calcitic Dolomite of Northern Puerto Rico, 1957

Beachrock in Northeastern Puerto Rico

A Survey of the Geology of Puerto Rico, 1954

Geology of the Carolina Clay Deposit, Puerto Rico

Geology and Ore Deposits of the Keystone Iron Mine Near Juncos, Puerto Rico

Stratigraphy, Sedimentation, and Structure of Late Cretaceous Rocks in Eastern Puerto Rico, 1960

Nickel-Cobalt-Iron-Bearing Deposits in Puerto Rico, 1959

~~**For Report in Full, See Appendix A.~~

Report of the Bureau of Mines, On the Mineral Resources of Puerto Rico, An Appendix to the Annual Report of The Bureau of Mines for the Fiscal Years 1939-1941

Preliminary Results of Geophysical Exploration for Gas & Oil on the North Coast of Puerto Rico

Preliminary Results of Geophysical Exploration for Gas & Oil on the South Coast of Puerto Rico

Industrial & Mineral Development in Puerto Rico, 1959-1962

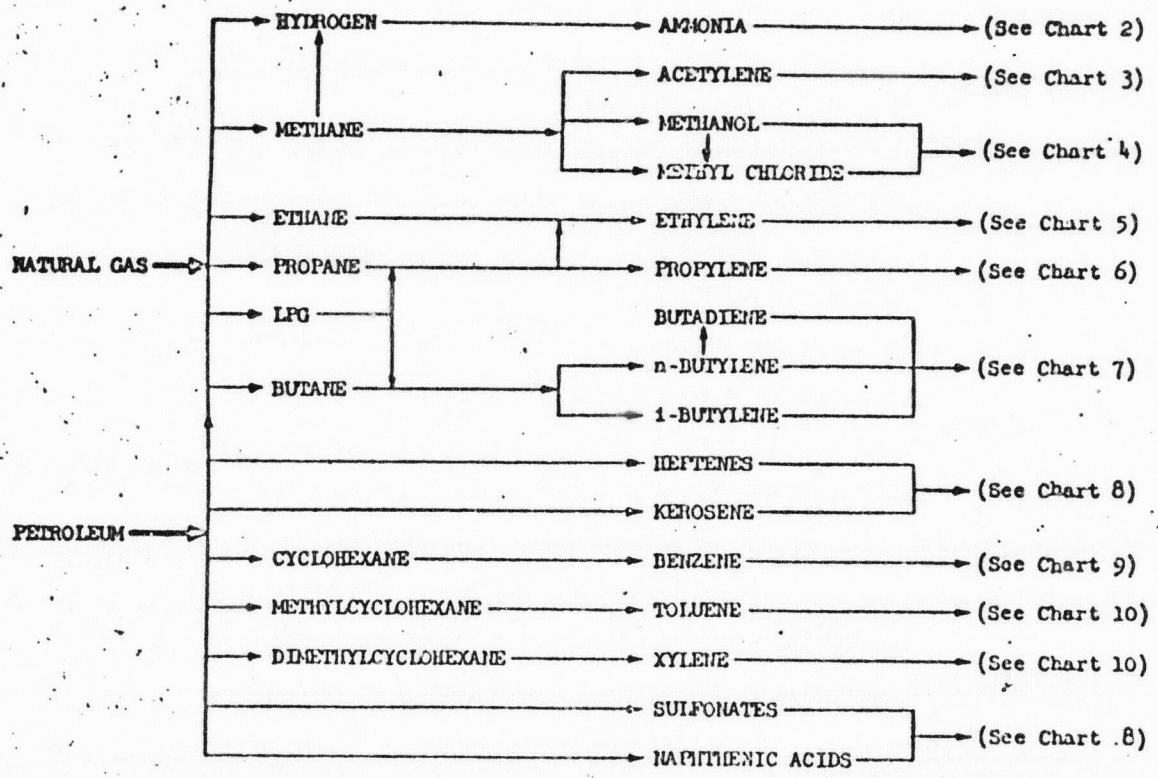
[redacted]

*For Report in Full - See Appendix A

IV

CHART 1

MAJOR PETROCHEMICAL INTERMEDIATES



THE RALPH M. PARSONS COMPANY

E 1072

E 1072

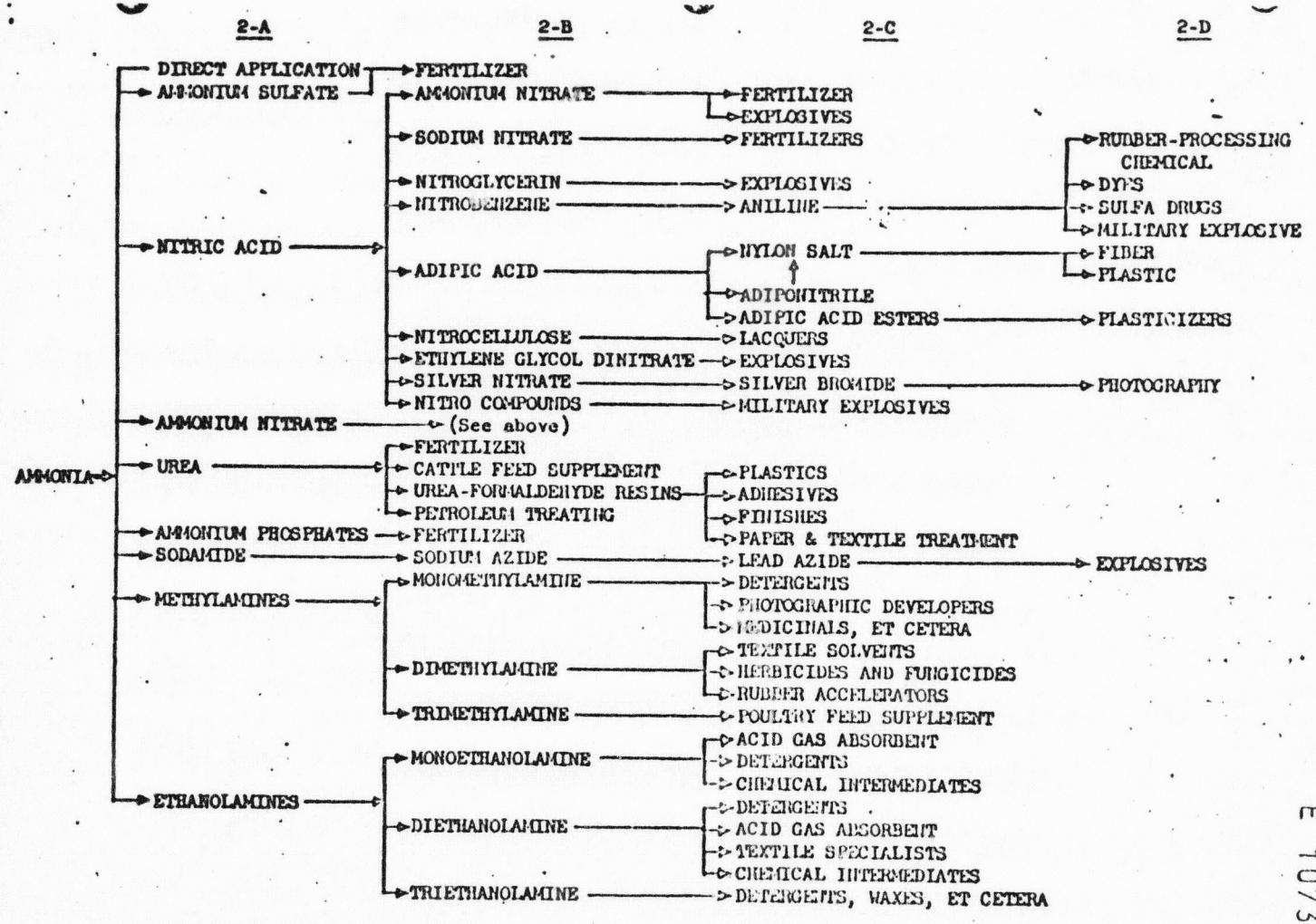


CHART 2
AMMONIA DERIVATIVES

E 1073

THE RALPH M. PARSONS COMPANY

E 1073

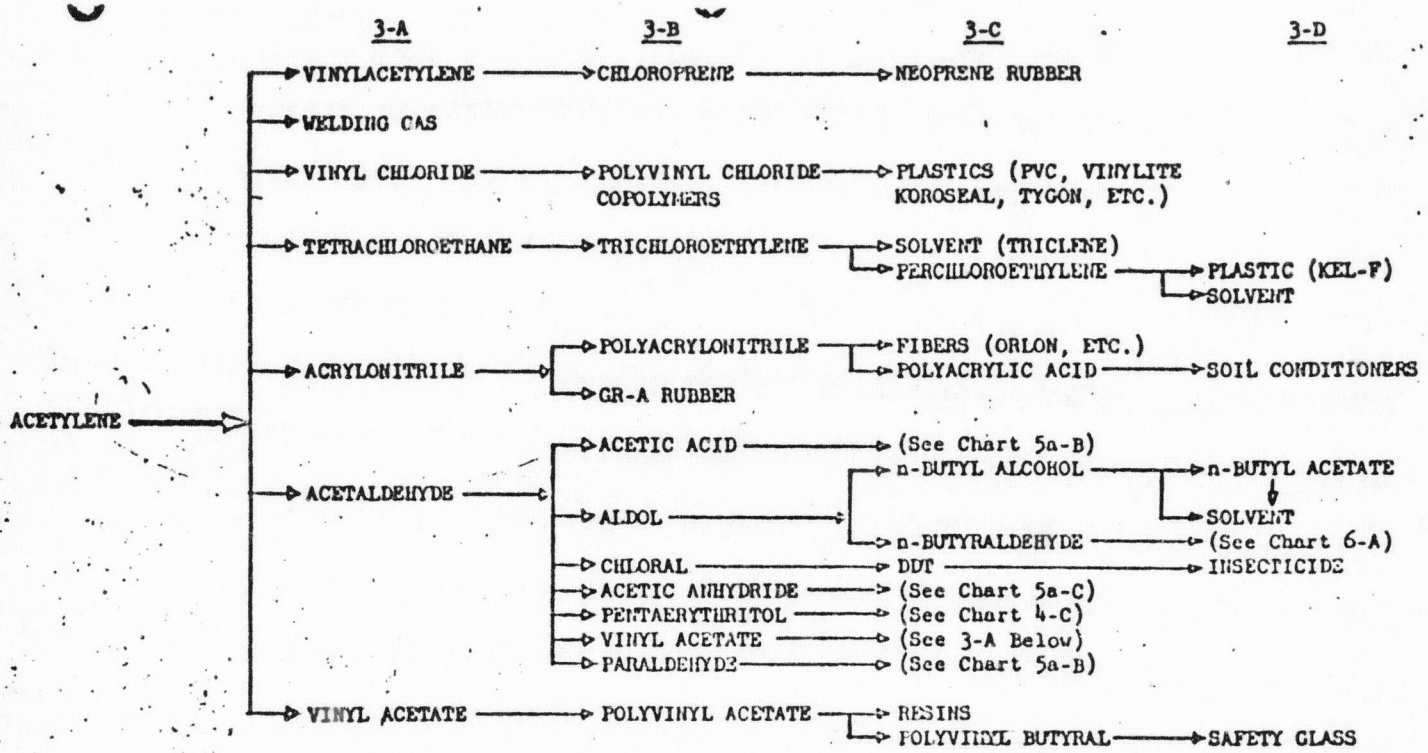


CHART 3
ACETYLENE DERIVATIVES

THE RALPH M. PARSONS COMPANY

E 1074

E 1074

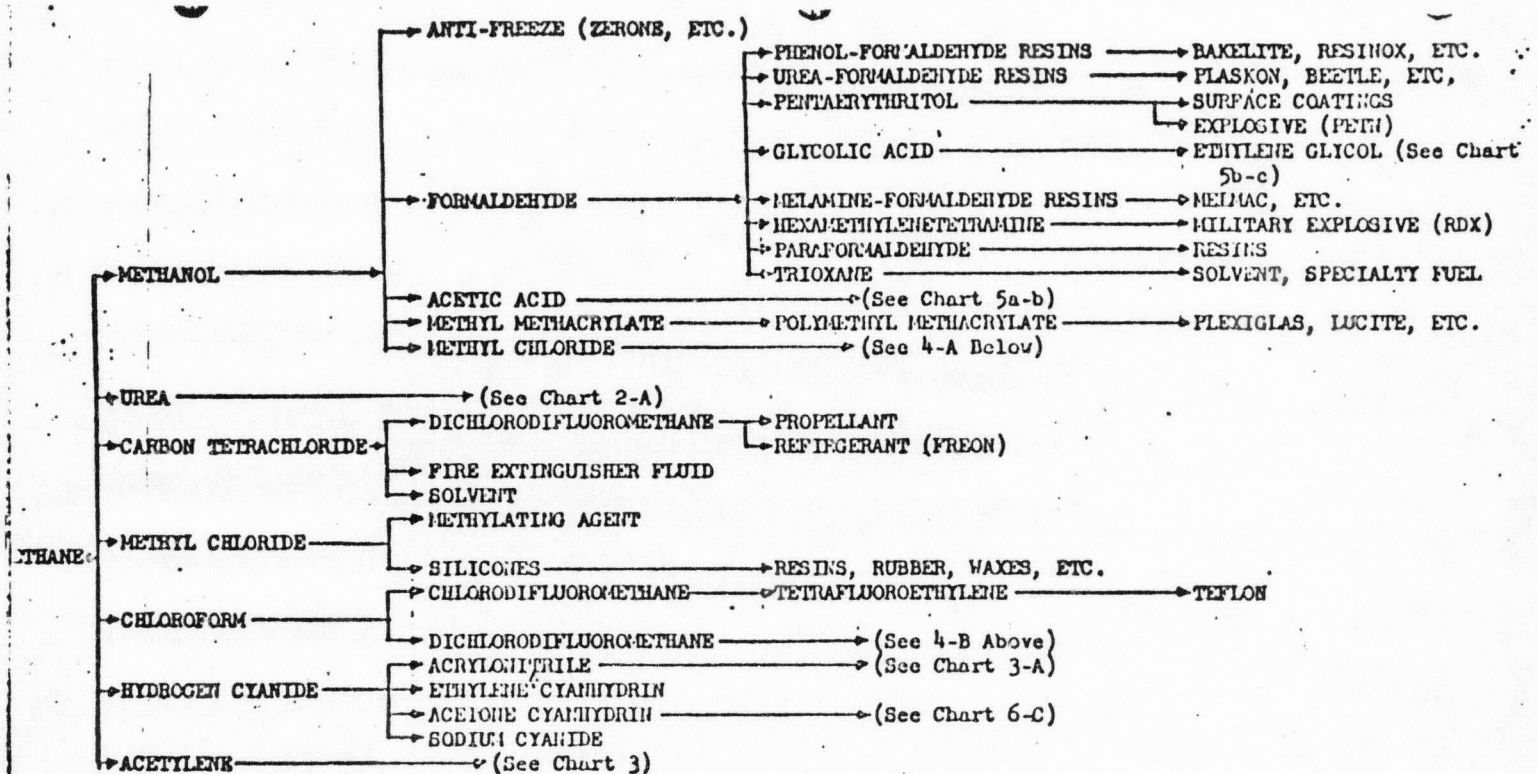


CHART 4
METHANE DERIVATIVES

THE RALPH M. PARSONS COMPANY

E 1075

E 1075

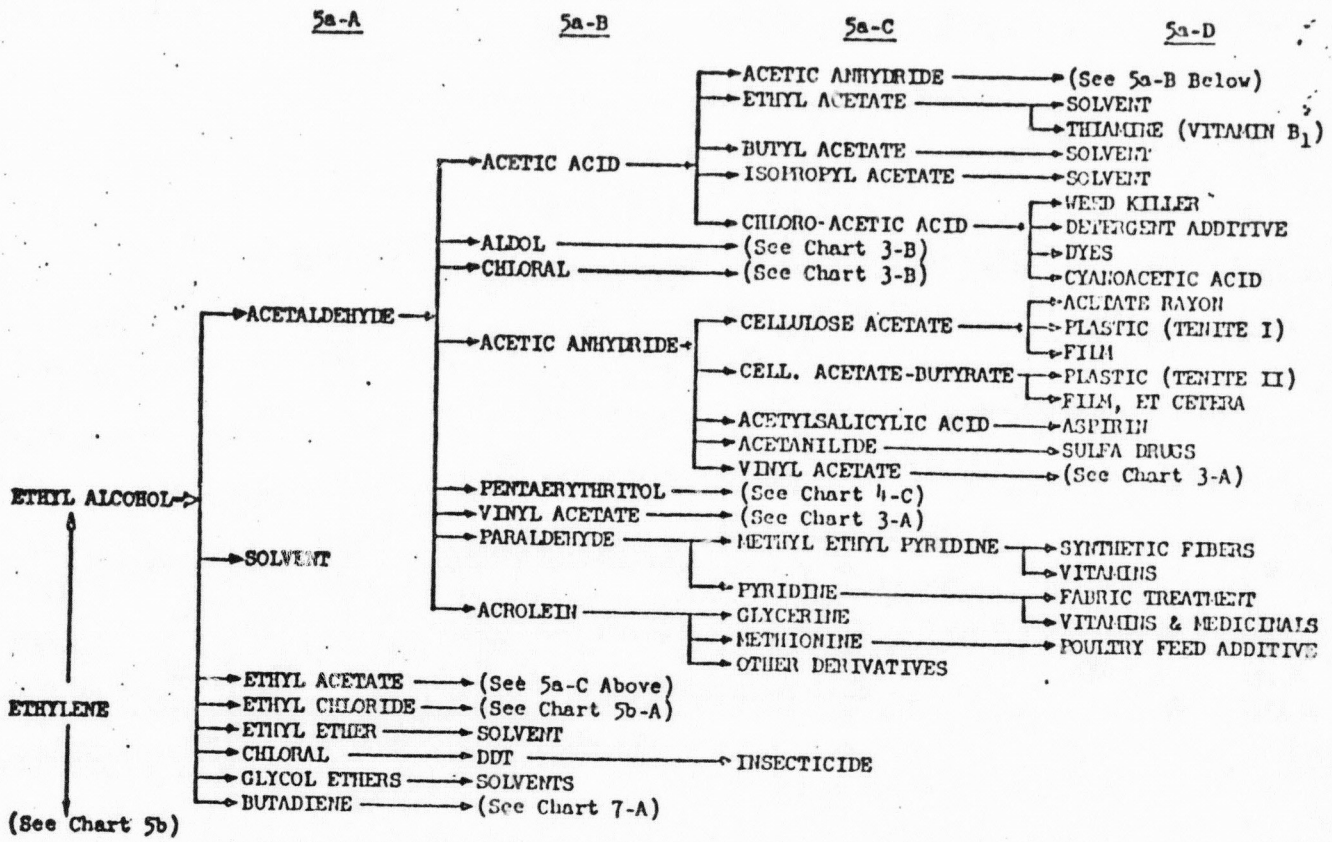


CHART 5a
ETHYL ALCOHOL DERIVATIVES

THE RALPH M. PARSONS COMPANY

E 1076

E 1076

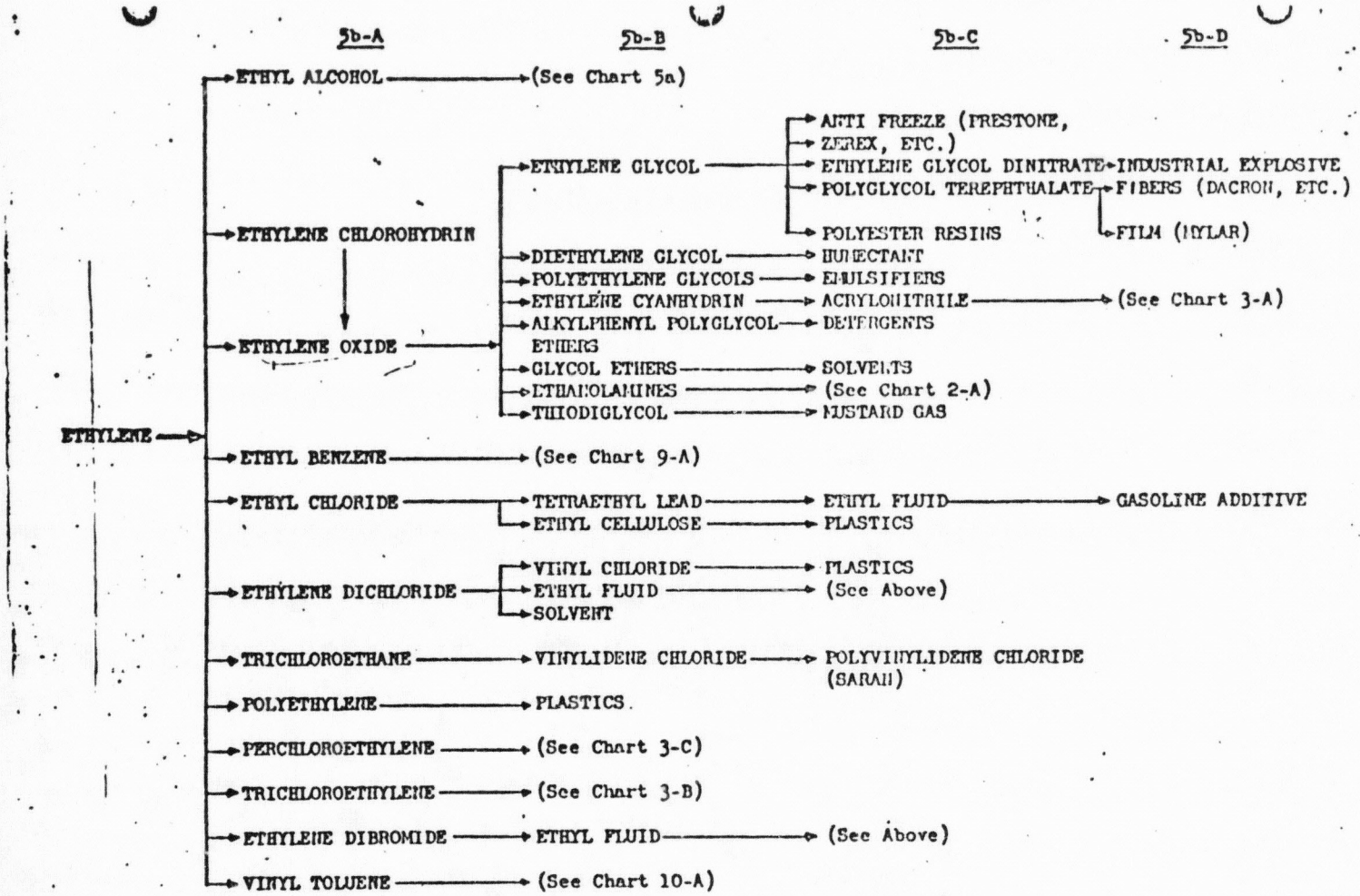


CHART 5b
ETHYLENE DERIVATIVES

THE RALPH M. PARSONS COMPANY

E 1077

E 1077

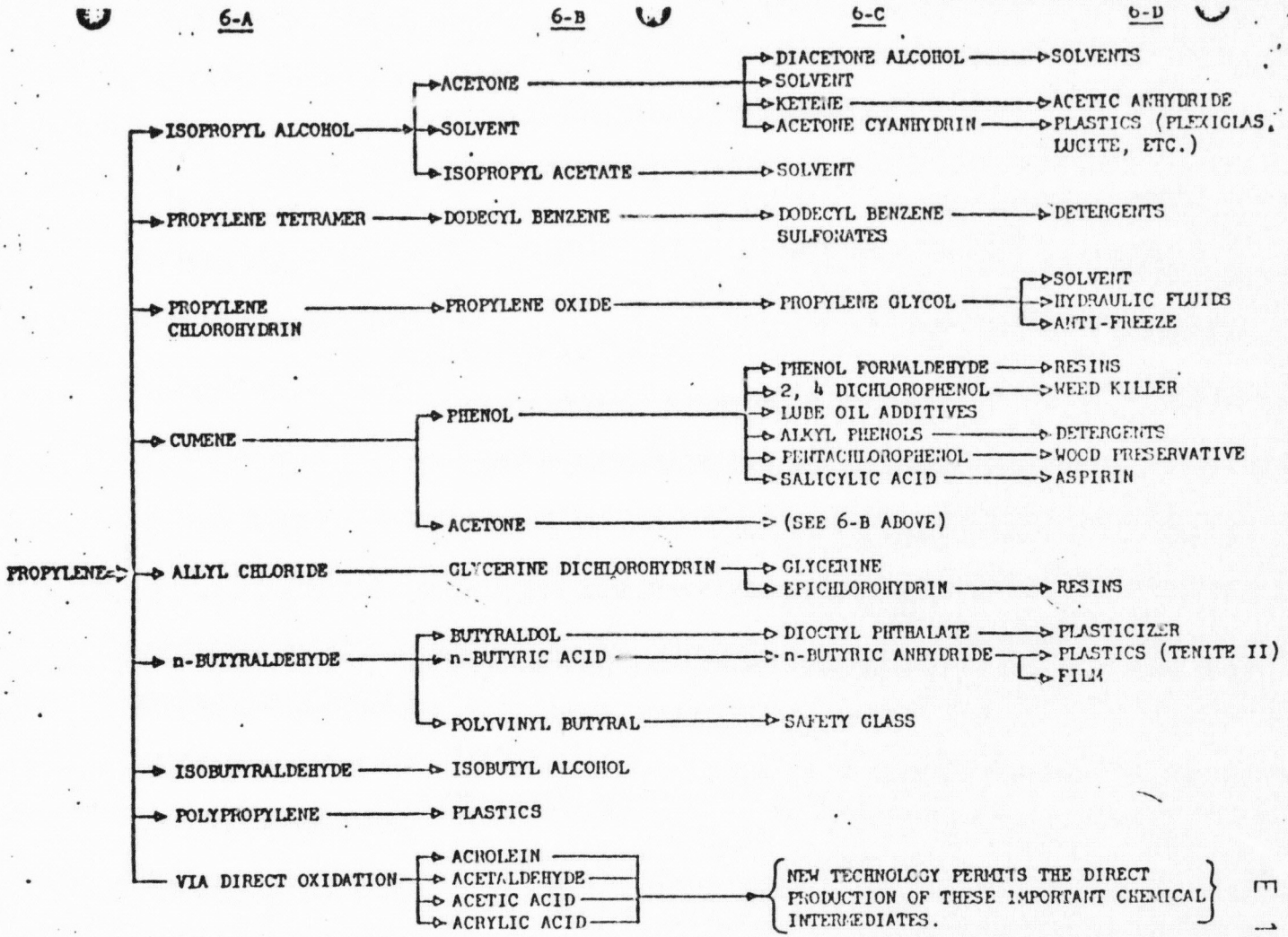


CHART 6
PROPYLENE DERIVATIVES

THE RALPH M. PARSONS COMPANY

E 1078

E 1078

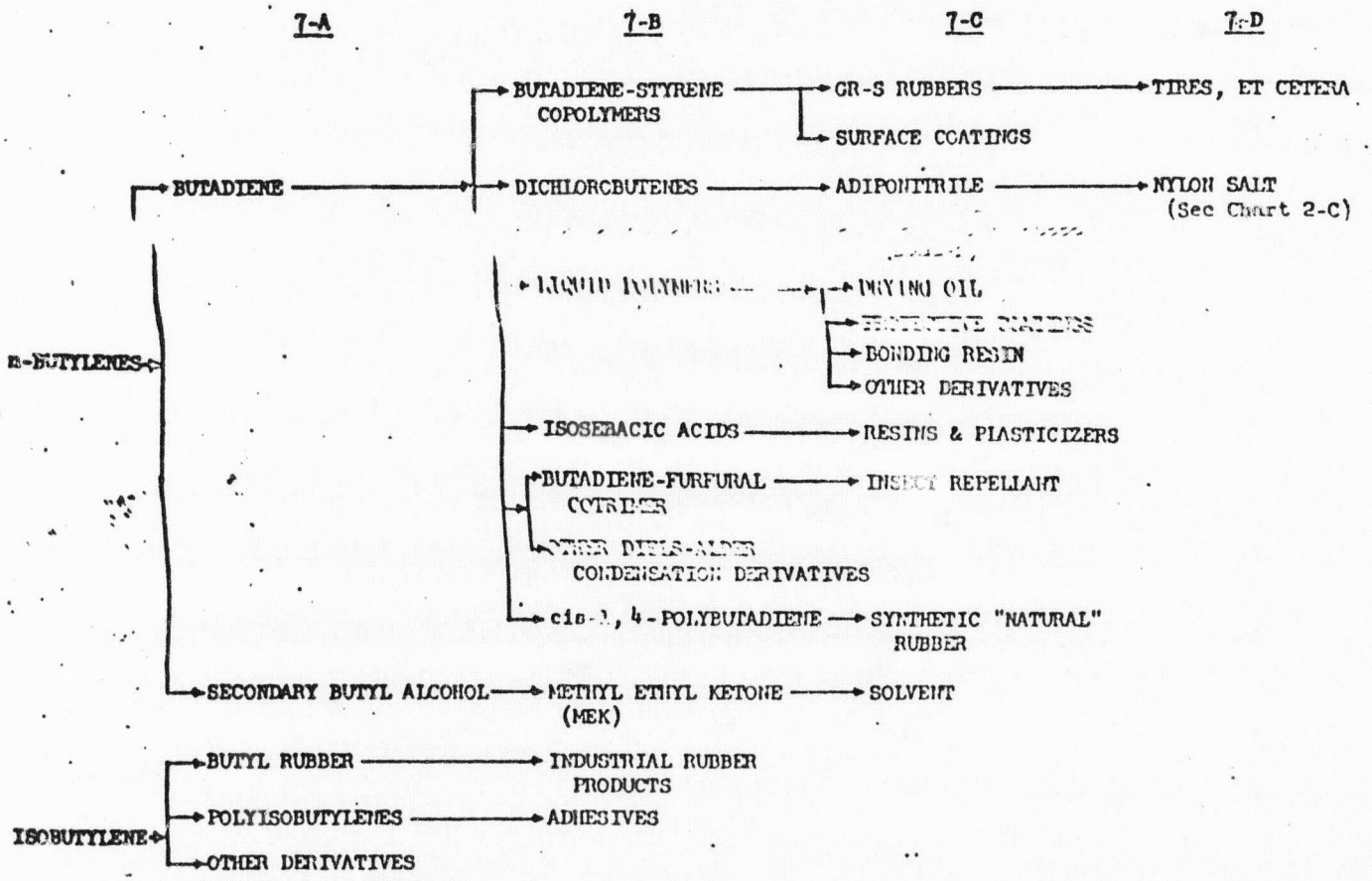


CHART 7
BUTYLENE DERIVATIVES

THE RALPH M. PARSONS COMPANY

E 1079

E 1079

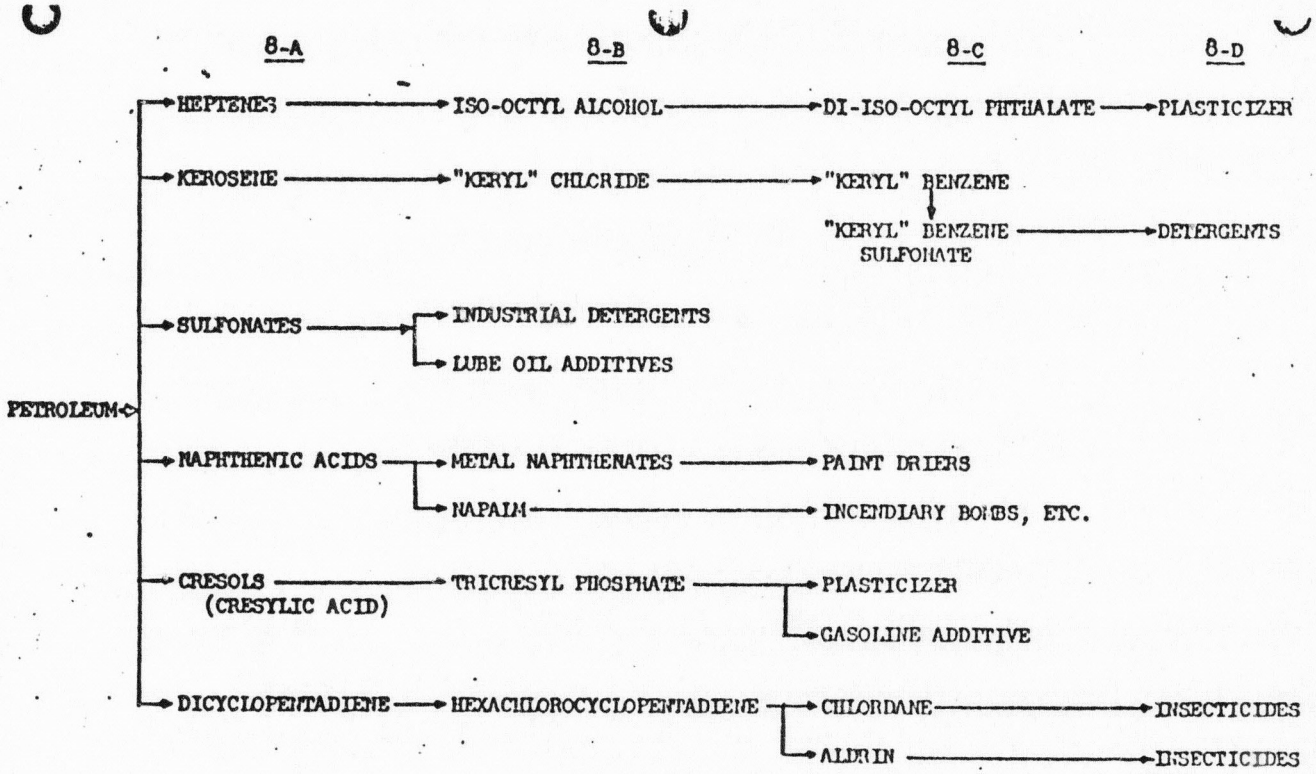


CHART 8
OTHER PETROLEUM DERIVATIVES

THE RALPH M. PARSONS COMPANY

E 1080

E 1030

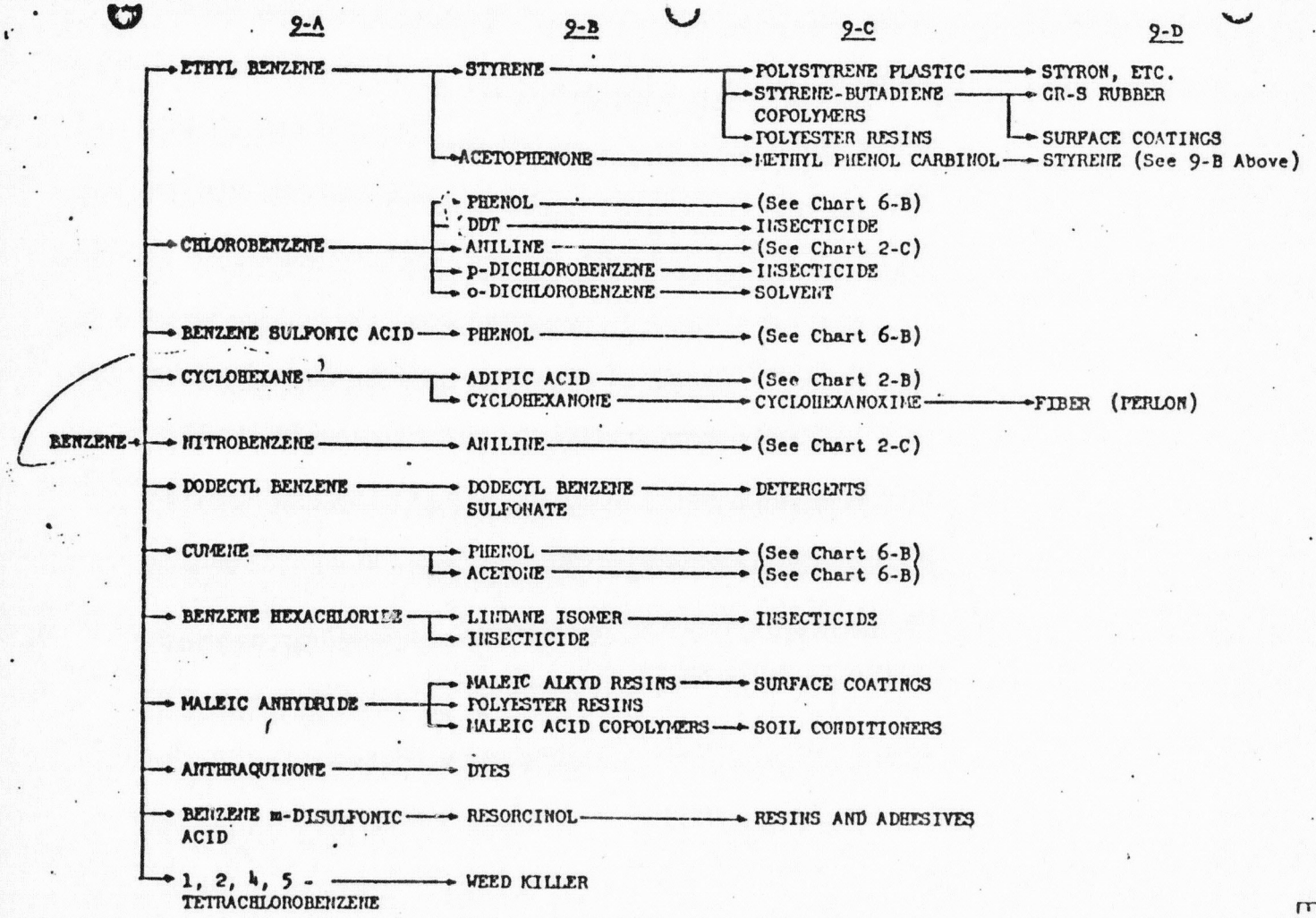


CHART 9
BENZENE DERIVATIVES

THE RALPH M. PARSONS COMPANY

E 1081

E 1081

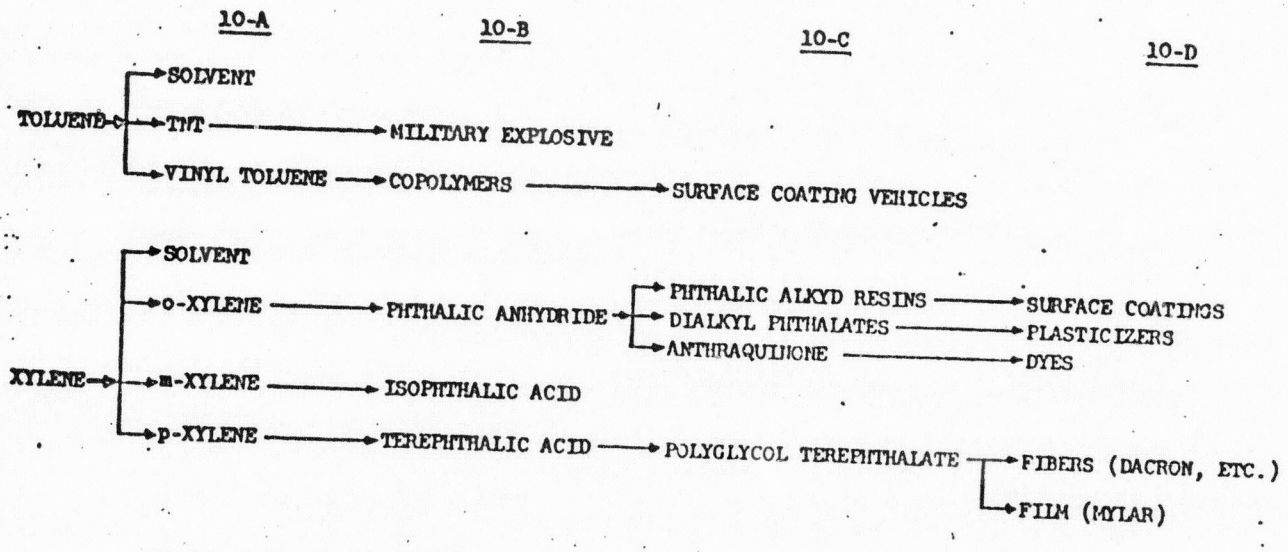


CHART 10
TOLUENE AND XYLENE DERIVATIVES

THE RALPH M. PARSONS COMPANY

E 1082

E 1082

E 1083

P 214D
E 1084

CHAPTER II

CORE PLANT

The first step in the development of a petrochemical industry is to establish a core plant to provide feed stocks and petrochemicals for the prospective petrochemical plants. The latter would be essentially satellites around the core plant which will extract and purify each raw material for each respective satellite plant.

Obviously, the entire complex of core plant and satellites cannot be established at once, but must be developed over a period of time. The question of where and how to start on a practical basis is thus presented.

A core plant is proposed to refine crude oil to produce sulfur, aromatic petrochemicals, a chemical feed stocks, and residual petroleum products. This plant would be designed in such a manner that side streams can be withdrawn and additional petrochemicals and chemical feed stocks separated and purified as soon as markets can be developed or agreements reached for satellite plants. In this way the quantity of petrochemicals will increase and the petroleum fuels will decrease as the petrochemical industry grows.

Some LPG will also be made, and the balance of the products will be made as soon as demand can be developed.

Sulfur is not normally considered a petrochemical because it usually occurs naturally and is one of the basic chemical building blocks. However, because of no known deposits in Puerto Rico, sulfur is now imported. Since crude oil contains small amounts of sulfur, a sulfur recovery unit is planned as part of the core refinery.

Salt recovered from the ocean by solar evaporation is available from both the southwestern part of Puerto Rico and from other nearby islands. Salt is the raw material required for two other basic chemicals: chlorine and caustic soda.

It is expected that a chlorine and caustic soda plant will be built as soon as the plans for the core plant are announced. Chlorination and sulfonation of petroleum products plays a large part in the petrochemical industry and, together with existing requirements for chlorine, caustic soda and sulfuric acid, will certainly create sufficient demand for the establishment of these basic chemical industries.

The key then to a chemical and petrochemical industry in Puerto Rico is a core plant which is established for the express purpose of extracting chemicals, chemical feed stocks, petrochemicals, fuels and other petroleum products from crude oil. This plant is not just another refinery, but a plant which is the

first step in the development of a petrochemical industry and which is part of a company which is committed to a policy of continuing its efforts in the growth of a chemical and petrochemical industry for Puerto Rico.

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CHAPTER III

SUPPORT OF THE COMMONWEALTH

In August, 1961, after an extensive survey of the chemical industry in Puerto Rico, the Economic Development Administration of the Commonwealth made it known to representatives of the company that a core plant for a petrochemical industry was sorely needed to provide raw materials otherwise not available for that industry. Representatives of E.D.A. have made this known to the Department of the Interior. They have started construction of port facilities in Mayaguez. They have agreed to clear and provide land for the core plant and set aside other land nearby for the satellite plants. They have agreed to provide housing, roads, and to redevelop a critically depressed area. They have agreed to assist support industries to provide services for the core plant and satellite plants. In essence, they have agreed to provide or assist in all items other than those facilities to be used solely by the core plant.

The Commonwealth has described the project for the establishment of a core plant for a petrochemical industry "as of the highest economic importance," and has requested that it move ahead "with dispatch."

A summary of this position and of the support of the Commonwealth Government is contained in their recent letter to the sponsoring group.

CHAPTER IV

E 1089

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E 1090

CHAPTER IV

COMMERCIAL IMPLEMENTATION

The Puerto Rico Oil & Petrochemical Company (PROPCO) has been incorporated in the Commonwealth of Puerto Rico by both Puerto Rican and United States parties for the express purpose of building a core plant for the development of a petrochemical industry. Its intent in this regard is contained in the first paragraph of its charter, as follows:

> "The company is formed for the express purpose of developing a chemical and petrochemical industry in Puerto Rico. It will design and build a refinery to produce, initially, sulfur, aromatic petrochemicals and petroleum products. This refinery will be the basis of and feed plant for the petrochemical industry as it grows. The refinery will be designed so that petrochemical side streams can be withdrawn in the future. When these side streams are needed, the company will install the necessary additional facilities to purify them. The company will also promote additional chemical and petrochemical projects related to the development of the petrochemical industry."

In the event that any particular petrochemical feed stock cannot be produced economically, the company has agreed to produce any such petrochemical feed stock on a quasi-public utility basis.

Directors of PROPCO include qualified and interested parties in both Puerto Rico and the United States.

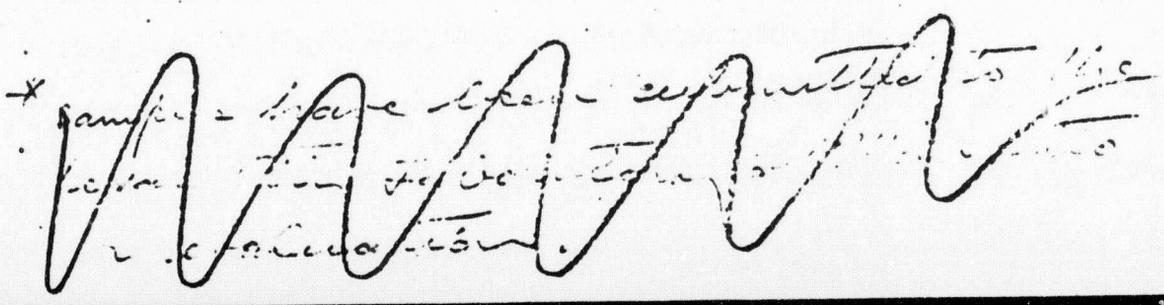
Both the officers and operating personnel of PROPCO have been selected on the basis of their proven performance in the chemical, petrochemical, petroleum and engineering and construction industries. Resume's of the Directors and Officers are attached hereto.

For the core plant to be economic and practical, raw material supply and marketing arrangements must be made.

Phillips Petroleum Company has agreed to supply crude and to market all petrochemicals and petroleum products not consumed by the petrochemical industry (See letter attached). Sulfur will be marketed by the company, probably to Caribe Nitrogen Company who now imports about three times the sulfur capacity of the core plant.

Monsanto Chemical Company has identified its interest in using 15,000 to 20,000 bbl/day of a 30% wax distillate cut if the company can meet its requirements as to quality and time (See letter attached).

Discussions have been held with Mobil Chemical, U.S.I., Division of National Distillers, Celanese Corporation, and Allied Chemical. These companies have asked to be kept informed of developments and would like to give serious consideration to building petrochemical plants in Puerto Rico if a core plant is built.



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Sheet B

Initial sale ... [illegible] ... to be slightly over 50% ... [illegible] ... and 50% petroleum ... may be ... United States. ... petrochemical ... mill, ... The breakdown of the initial sales ... as follows:

Wax feed stock - 30% (gross)	10% net
Other petrochemicals	18%
Fuels to Military & Merchant Passenger vessels	25%
Fuels to be shipped to continental U.S.A.	47%
Total	100%

BEST COPY AVAILABLE

The core plant will necessarily produce petroleum fuels. To assist in marketing these outside the Continental U.S., a fueling station is planned for ships passing through the Mona Passage. This station is planned for both commercial and U.S. Naval vessels, and for tanker shipments of military fuels.

Captain O. W. Stafford SC USN Director, Purchase Division, reported at the September 21, 1962, meeting of the National Petroleum Refiners Association that $300 million is spent annually by the U.S. Navy for overseas fuels. At this same meeting, Col. R. W. Beer, USAF, Director, Planning and Comptroller Division, submitted an excellent series of charts showing details of military procurement which showed the Caribbean to be the largest single source of military tanker cargoes. Detail of the reports at this meeting are attached.

If the core plant is built, the company will also build a tetraethyl lead antiknock plant large enough to supply all the antiknock requirements of Puerto Rico. Imports were over 4 million pounds in 1960* for the two existing refineries. The core plant would use an additional 1 million pounds which would make a 5 million pound antiknock plant practical.

*From data received from the Economic Development Administration of the Commonwealth of Puerto Rico.

Board of Directors

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Mr. Jorge Bird

Mr. Rafael Carrion

Mr. Hector Ceinos

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Mr. Walter Gruber

Mr. Frank Larson

Mr. John Little

Mr. John Neikirk

Mr. Gustavo Podilla

Mr. Edward Willey

Mr. Thomas Young

Officers & Directors

Puerto Rico Oil & Petrochemical Co.

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President
Chief Operating Officer

Mr. Thomas Young, Professional Chemical Engineer. Formerly a partner in Singmaster Breyer, consulting engineers, and a Vice President of Houston Chemical Company

Vice President
Technical Director

Mr. Herman W. Behme, Chemist. Formerly of Stauffer Chemical and Dorr-Oliver Company, and Vice President of Houston Chemical Company.

Vice President
~~Market Development~~
Operations

Mr. A. Dale Fischbeck, ~~authority and consultant on market development and patent process for the petrochemical industry~~ 30 years experience in production, operations & marketing of petroleum, currently serving Phillips Petroleum in this capacity.

Vice President
Marketing &
Public Relations

Mr. John W. Little, formerly Director of Advertising, Wellington Sears Company, and currently Vice President Marketing, Prudential Oil Corporation.

Vice President Finance	Mr. Frank Larson, ~~a Vice President and~~ Director of Prudential Oil Corporation and Treasurer of Avco.
General Counsel	Mr. Oscar Chapman, formerly Secretary of Interior, a partner of his own law firm in Washington, D. C.
Financial Consultants	E. M. Warburg Company, New York, New York
Accountants	Price Waterhouse Company

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NATIONAL PETROLEUM REFINERS ASSOCIATION

FALL MEETING

PROCEEDINGS OF DEFENSE PETROLEUM SUPPLY CENTER PRESENTATION
(September 21, 1962)

REMARKS BY
Colonel Leon Stann
on behalf of
Rear Admiral T. L. Becknell, Jr.

DPSC'S ROLE IN PETROLEUM
Colonel R. W. Beers, USAF
Director, Planning and Comptroller Division

PROCUREMENT OF PRODUCTS
Captain O. W. Stafford, SC, USN
Director, Purchase Division

PROCUREMENT OF SERVICES
Colonel S. O. Benner, USAF
Director, Service Contracts Division

LEGAL ASPECTS OF DPSC CONTRACTS
C. F. Pollock
Counsel

Presented at the
NPRA FALL MEETING
Washington, D. C.
September 19-21, 1962

416 Beacon Building
Tulsa, Oklahoma

927 Munsey Building
Washington, D. C.

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The statements herein do not reflect the official position of the National Petroleum Refiners Association unless specifically approved by the Board of Directors. The NPRA does not restrict the publication of this paper. However, the NPRA does recommend that approval be obtained from the author before the paper is published by any trade journal. The name, location and date of the NPRA meeting at which the paper was presented should be included in the published article. Additional copies of this paper are available to members of NPRA at no additional charge.

OPENING REMARKS

by

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Colonel Leon Stann, USAF

On behalf of Admiral Becknell and the Defense Petroleum Supply Center, I wish to express our appreciation for the privilege of meeting with the National Petroleum Refiner's Association. Admiral Becknell asked me to extend his sincere regrets that he is unable to attend. As you know, the Admiral is on an extended tour of temporary duty in Far East Asia.

We regard meetings such as this as a very valuable channel of communication between the Petroleum Industry and the Military. I hope that during the question and answer periods that you will feel free to raise any points that need clarification or amplification. We are here to listen and learn as well as to present information. The more thorough the exchange of information, the better equipped we will be to insure that the U.S. Military Forces are adequately supplied with the types and quantities of petroleum products they require.

I am certain that you recognize the importance of petroleum to the economics and defense efforts of the Free World; and, you need no reminder of the importance of petroleum to those countries that lie behind the Iron and Bamboo Curtains.

Our chances of success or failure in any future conflict hinge on oil. The sobering truth is that petroleum availability can make or break any military operation in modern war. With the dramatic, but still very limited exception of nuclear-powered naval vessels, the Armed Forces of all Nations are committed exclusively to hydrocarbon fuels to power their complex weapons systems.

The magnitude of military petroleum consumption is staggering by any standard of comparison. At present, our peacetime usage is running at the rate of approximately 36 million gallons a day. This is an increase of 21 million gallons a day since 1950. For example, jet fuel requirements have risen from zero 14 years ago to the present level of 17 million gallons a day. The modern military machine literally thirsts for oil. Guns, tanks, ships, planes and even most missiles need petroleum fuels and lubricants -- and in great quanitites. Concurrent with increased consumptions, there has been a gradual evolution toward greater complexity and more stringent requirements with respect to petroleum products, and their application to equipment. Materials and equipment are being stressed to their limits to meet the performance requirements of the aero-space age. Accordingly, fuels, lubricants and hydraulic fluids will have to withstand greater stresses - some known today - others to be specified in the future. Thermal stability, storage stability, cleanliness, luminometer number, BTU content, and many other characteristics are becoming increasingly important. We are continuously developing new specifications and amending existing ones. In most instances the requirement are becoming tighter. The capability of industry to produce more and better products is becoming increasingly important.

I mention these points not to impress you -- but rather to drive home the basic point that given the global commitments of the U.S. and the key importance of petroleum to support our forces, we - meaning both the Military and Industry - are faced with a tremendous logistic problem. We dare not fail, for nothing less than survival is at stake! We have depended heavily upon the petroleum industry in

the past, and have always received outstanding support. I think it is accurate to say that we expect to remain heavily dependent upon the Petroleum Industry as far into the future as we can presently see. I am confident that we can continue to depend on your outstanding support!

Once again I would like to express our sincere appreciation for being able to participate in this meeting.

xxx

DPSC'S ROLE IN PETROLEUM

by

Col. R. W. Beers, USAF

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The Defense Petroleum Supply Center rang in the year of 1962 with a transfer from Department of Navy to Defense Supply Agency management and our name was changed from the Military Petroleum Supply Agency to its present designation.

Since the first of January, procedures have changed but there has been no change in the basic objective of providing effective logistic support to the Military forces at the lowest possible cost to the taxpayers.

The Defense Supply Agency, or DSA to use its alphabetical short title, attempts to achieve this basic objective under the principle of decentralized operations with centralized policy and guidance. At present, DSA has two service activities - Traffic Management and Logistics, and line Commodity Supply Centers - Petroleum, Subsistence, Constructions, Medical, General Supplies, Industrial Supplies, Clothing and Textiles, Electronics Parts and Automotive Parts. These DSA field elements perform a wholesaler function for the Military Services.

To perform its mission, DSA currently employs approximately 21,000 military and civilian personnel. About 550 of them are employed in DSA Headquarters. By 30 June 1963, it is anticipated that the total employment will rise to approximately 25,300. About 1,000 will be military personnel from the four Services.

DSA Supply Centers now manage an inventory of 262,021 line items valued at 1.75 Billion dollars. This will increase to 1,200,000 items with a value of 2.6 billion dollars by the close of Fiscal Year 1963.

DSA also administers Defense-wide programs for cataloging, standardization, inter-servicing and surplus disposal which covers about 3.5 million items in the Military Supply System.

Studies to determine the range of additional items susceptible to integrated management by DSA are underway. Included are industrial production equipment, common chemical supplies and aeronautical spare parts. The total inventory value of those items is nearly ten billion dollars.

I mentioned previously that the DSA Supply Centers operate on a decentralized basis. DSA Headquarters provides overall leadership, coordinates policy and procedures and exercises the management functions related to budgeting, fiscal control and accounting, and programming.

This resume of the Defense Supply Agency provides a bird's-eye view of the organization of which the Defense Petroleum Supply Center is a member.

Now let us look specifically at the mission, functions, and operations of the Defense Petroleum Supply Center in the world-wide petroleum logistics systems. (1) In our mission there is a definite distinction and differentiation between our scope of operations and that of DSA Commodity Supply Centers.

CHAPTER VI

ECONOMIC DATA AND FINANCING PLAN

The financial advisors to the PUERTO RICO OIL AND PETROCHEMICAL CO. have developed the following plan for financing the core plant.

This plan is an extension of the cost estimates from the study carried out by the UNIVERSAL OIL PRODUCTS CO., and includes additional financing for operating capital, including overhead and sales expenses, and contingencies to cover start-up expenses and unforseen delays in reaching a profitable rate of production. This contingency fund is approximately 20% more than the estimated costs shown in the UNIVERSAL OIL PRODUCTS study attached hereto, entitled PROCESSING AND ECONOMIC DATA FOR A PROPOSED PUERTO RICO REFINERY+SECTION 3+ SUMMARY.

As shown in TABLE I, the total capital investment is estimated at $68,485,590 of which 80% is to be provided through Sinking Fund Debentures and 20% is to be provided through equity capital. In addition, the plant site is to be provided by the Commonwealth, and leased to the company. The area development is to be carried out by the Commonwealth.

To the estimated sum of $68,485,590, the company has added a sum of approximately 15% for operating capital, and unforseen expenses, bringing the total to $79,000,000.

The calculation in TABLE I of Net Operating Cost and Income is a proforma presentation, and flexibility exists under the tax laws of the Commonwealth to permit full depreciation before any taxes are due. Other more favorable handling of debt burden could be anticipated as the situation requires. However, the plan as shown is feasible, and should suffice.

The UNIVERSAL OIL PRODUCTS financial study is fully adequate in the opinion of the financial advisors to the company.

Stability is added to this plan by virtue of the marketing contract between the company and PHILLIPS PETROLEUM COMPANY, which assures the sales of the available product from the core plant.

This financial plan will be implemented through an S.E.C. Prospectus as soon as an oil import permit is issued to the company. The body of this Report, together with the financial plan, is substantially the material which will constitute the S.E.C. Prospectus.

Following is the report by the UNIVERSAL OIL PRODUCTS CO.

PROCESSING AND ECONOMIC DATA

FOR A PROPOSED PUERTO RICO REFINERY

TABLE I

ESTIMATED NET OPERATING INCOME

Year	Product Value	Charge Value	Gross Profit	Operating Expenses	Net Profit	Sinking Fund Debent.	Debent. Interest [1]	Income Before Deprec.	Deprec.	Balance Before Taxes	Income Taxes	Income After Taxes	Earnings on Equity: Net	Earnings on Equity: Gross
1	77,923.4	48,645.0	29,278.4	13,193.5	16,084.9	2,739.4	3,287.3	12,797.6	3,131.7	9,665.9	-	9,665.9	6,926.5	10,0[illegible]
2	77,923.4	48,645.0	29,278.4	13,193.5	16,084.9	2,739.4	3,182.9	12,562.0	3,131.7	9,830.3	-	9,830.3	7,040.9	10,22[illegible]
3	77,923.4	48,645.0	29,278.4	13,193.5	16,084.9	2,739.4	2,958.6	13,126.3	3,131.7	9,994.6	-	9,994.6	7,255.2	10,38[illegible]
4	77,923.4	48,645.0	29,278.4	13,193.5	16,084.9	2,739.4	2,794.2	13,290.7	3,131.7	10,159.0	-	10,159.0	7,419.6	10,55[illegible]
5	77,923.4	48,645.0	29,278.4	13,193.5	16,084.9	2,739.4	2,629.8	13,455.1	3,131.7	10,323.4	-	10,323.4	7,584.0	10,71[illegible]
6	77,923.4	48,645.0	29,278.4	13,193.5	16,084.9	2,739.4	2,465.5	13,619.4	3,131.7	10,487.7	-	10,487.7	7,748.3	10,88[illegible]
7	77,923.4	48,645.0	29,278.4	13,193.5	16,084.9	2,739.4	2,301.1	13,783.8	3,131.7	10,652.1	-	10,652.1	7,912.7	11,04[illegible]
8	77,923.4	48,645.0	29,278.4	13,193.5	16,084.9	2,739.4	2,136.8	13,948.1	3,131.7	10,816.4	-	10,816.4	8,077.0	11,20[illegible]
9	77,923.4	48,645.0	29,278.4	13,193.5	16,084.9	2,739.4	1,972.4	14,112.5	3,131.7	10,980.8	-	10,980.8	8,241.4	11,37[illegible]
10	77,923.4	48,645.0	29,278.4	13,193.5	16,084.9	2,739.4	1,808.0	14,276.9	3,131.7	11,145.2	-	11,145.2	8,405.8	11,53[illegible]
11	77,923.4	48,645.0	29,278.4	13,193.5	16,084.9	2,739.4	1,643.7	14,441.2	3,057.0	11,384.2	4,170.6	7,213.6	4,476.2	7,93[illegible]
12	77,923.4	48,645.0	29,278.4	13,193.5	16,084.9	2,739.4	1,479.3	14,605.6	3,057.0	11,548.6	4,231.0	7,317.6	4,580.2	7,63[illegible]
13	77,923.4	48,645.0	29,278.4	13,193.5	16,084.9	2,739.4	1,314.9	14,770.0	3,057.0	11,713.0	4,291.4	7,421.6	4,684.2	7,73[illegible]
14	77,923.4	48,645.0	29,278.4	13,193.5	16,084.9	2,739.4	1,150.6	14,934.3	3,057.0	11,877.3	4,351.9	7,525.5	4,788.1	7,84[illegible]
15	77,923.4	48,645.0	29,278.4	13,193.5	16,084.9	2,739.4	986.2	15,098.7	3,057.0	12,041.7	4,412.2	7,629.5	4,892.1	7,95[illegible]
16	77,923.4	48,645.0	29,278.4	13,193.5	16,084.9	2,739.4	821.8	15,263.1	927.0	14,336.1	5,255.4	9,080.7	6,343.3	7,20[illegible]
17	77,923.4	48,645.0	29,278.4	13,193.5	16,084.9	2,739.4	657.5	15,427.4	927.0	14,500.4	5,315.8	9,184.6	6,447.2	7,37[illegible]
18	77,923.4	48,645.0	29,278.4	13,193.5	16,084.9	2,739.4	493.1	15,591.8	927.0	14,664.8	5,376.2	9,288.6	6,551.2	7,47[illegible]
19	77,923.4	48,645.0	29,278.4	13,193.5	16,084.9	2,739.4	328.7	15,756.2	927.0	14,829.2	5,436.5	9,392.6	6,655.2	7,58[illegible]
20	77,923.4	48,645.0	29,278.4	13,193.5	16,084.9	2,739.4	164.4	15,920.5	927.0	14,993.5	5,497.0	9,496.5	6,759.1	7,68[illegible]

Notes:

(a) Total capital investment $68,485,590
20% Equity Capital $13,697,118
80% Convertible Sinking Fund Debentures, 6% interest, 20 years $54,788,472

(b) Yearly sinking fund, 1/20 of $54,788,472 = $2,739,424 paid at the end of each year out of income after taxes.

(c) Debenture interest, 6% on the unpaid debentures.

(d) Earnings on equity: Net income after payment of the yearly sinking fund. Gross income after payment of the yearly sinking fund plus depreciation.

(e) Depreciable items: Process and offsites facilities and start[illegible] capital.

(f) Depreciation rate: Process Capital-straight line on 15 years 10% salvage value.
Offsite Capital-straight line on 20 years 10% salvage value.

(g) Income Tax: No income tax due for 1st ten years. Thereafter rate is 35.75% of taxable net income less $13,1[illegible]

(h) All numbers in thousands.

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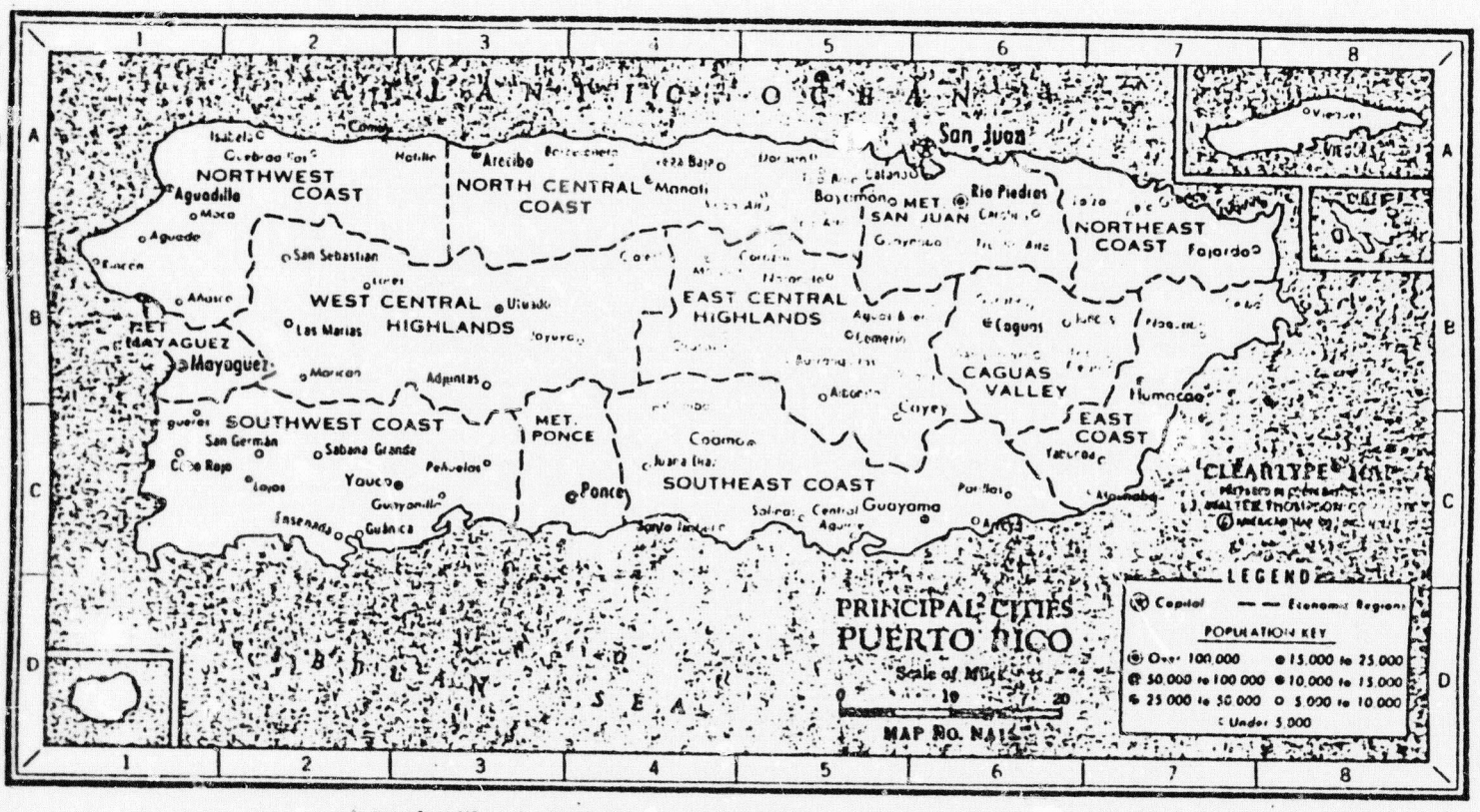
CHAPTER VI

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yields, estimated net operating income, and a site survey.

The general area of the site is shown in read on the map opposite. Further details of their site are shown on pages 45-47 of Appendix C.

The details of the U.O.P. studies are included in Appendix B.


ATLANTIC OCEAN
CARIBBEAN SEA
PUERTO RICO
San Juan
NORTHWEST COAST
NORTH CENTRAL COAST
NORTHEAST COAST
WEST CENTRAL HIGHLANDS
EAST CENTRAL HIGHLANDS
MET. MAYAGUEZ
MET. SAN JUAN
CAGUAS VALLEY
SOUTHWEST COAST
MET. PONCE
SOUTHEAST COAST
EAST COAST
Aguadilla
Arecibo
Manati
Bayamon
Rio Piedras
Fajardo
San Sebastian
Utuado
Las Marias
Mayaguez
Aguada
Aguada
Aguadilla
Aguada
Aguada
Aguada

CHAPTER V

ENGINEERING PLANNING

Engineering planning has been directed toward a practical compromise between a standard refinery and refinery designed to produce a maximum of petrochemical products for which there is little or no present market. The compromise results in a core plant to produce petrochemical feed stocks at the maximum rate they can be marketed. Further, however, is the key that this plant must be designed so that additional petrochemicals can be withdrawn in the future and that the company is committed to providing these additional petrochemicals or feed stocks.

Two studies and an addendum to the second study have been made by the Universal Oil Products Company for the proposed core plant. The plant covered by the second study with addendum produces approximately 18% of the dollar sales volume in petrochemicals. By adding a sulfur recovery unit and a tetraethyl lead antiknock additive plant, the petrochemical sales will increase to approximately 20%.

The study covers a 60,000 bbl/day refinery designed to produce a maximum practical quantity of petrochemical raw materials and intermediates. It includes capital and operating cost estimates, manpower requirements, process description,

CHAPTER V

at the suppliers' shore tanks and that inspection may be at still another point. In other words, "delivery" involves three different locations and three different points in time. What happens if there is a pipeline break between the shore tank and the ship's permanent hose connection? Could we, as a practical matter, designate one point for acceptance, measurement and passage of title? If we can, should we?

These questions and many, many others are involved in our contract general provisions. The answers we adopt have a long range impact on the industry. How can you and we get at the problem?

My suggestion is that you or members of your companies carefully and periodically review our contract terms and, from time to time, forward to us your comments and recommendations. I cannot guarantee that we will adopt any of your recommendations. It is even probable that industry comments, on any given concept, will vary from all black to all white. Naturally, we intend to adopt only that which is in the best interests of the government. However, there is a large area of common interest, and, the ideas you express on one subject may plant the seed of solution to that problem or to a problem on another subject. Without an expression of industry opinion we navigate to some extent in the dark.

In any event, I want you to understand that the Defense Petroleum Supply Center encourages industry comments on our contract provisions and that all comments will be carefully considered. One note of caution: the time to comment is before or after you submit a bid. We frown on comments submitted with your bids, and, as many of you may have regretfully learned, we are required to reject such bids as nonresponsive.

aside to retain the same proportion of awards to small business, and, notwithstanding that the new procedure has placed an additional administrative workload on DPSC, all present indications are that the general purpose and intent of the small business act are being as well carried out under the new procedure as was originally successfully developed under the floating set-aside procedure.

IMPACT ON CONTRACT TERMS

The second item I would like to discuss is the impact of the terms of our contracts upon industry.

You are familiar with the impact which government specifications have on the type and quality of commercial product and on industry standards in general. Government specifications in time tend to become industry standards. For the most part, this has been good for the industry when considered collectively. However, with the passage of time, individual companies within the industry have found it advisable to specifically interest themselves in the continuing development of government specifications.

The point I wish to make is that what is true of government specifications is, or should, also be true of government's contract terms. We must, of course, recognize that many of our contract terms are not within your and my province to amend. Those clauses which are required by statute and executive order are essentially sacrosanct and must be included in our contracts whether or not we like them or need them. There are, however, a number of clauses which are within our authority to amend: such as those concerning delivery, inspection, acceptance and invoicing.

About five years ago, we undertook a careful study of our supply contract general provisions. The revised provisions were incorporated into a new form designated, MPSA form 77. Our plan has been to revise this form each year. To date, we have been successful in doing so.

From what I hear, the industry is accepting, as its standards, some of the terms expressed in our government contracts. I think this trend will continue because our contracts touch nearly everyone in the industry and, hence, become common ground concepts within industry. Basically, this is good. However, although these concepts can be adjusted fairly easily in their early stages: time will make them ever more difficult to amend.

I am suggesting that you and your industry have a long term stake in our contract terms. I'm sure each of you know of marketing practices to which your company is now committed that you would gladly scrap. I've even heard some of you say you would like to hang first, and then try, the fellow who came up with the idea of credit cards.

Yet, the same thing can be happening with respect to the concepts embodied in our contract general provisions. Tanker deliveries provide a case in point. Our contracts provide that, on delivery F.O.B. a tanker, the title will pass at the ship's permanent hose connection but that measurement for quantity will be

of Defense. He said, "we do not object to the formula...so long as the total cost... would not exceed what it would have been absent a set-aside." However, although he did not object to the formula used, in this case he found that the specific awards were not computed in strict accordance with the formula and that "the price at which awards were made... is in excess of the price agreed to be paid," on the nonset-aside portion, and, in his opinion "a downward adjustment in price with...the two concerns awarded the set-aside "would be appropriate." In other words, he did not question the formula for determining set-aside prices but he did question the propriety of the prices in that particular instance because he felt that the formula had technically not been properly applied.

It is unlikely that the same factual situation will again occur under the new set-aside procedures now being used by the defense petroleum supply center.

The third question you will recall was whether the "floating set-aside" principle was legally authorized. On that third question, the Comptroller General said that the "floating set-aside" violated the rules of formal advertisement in that it did not define, with sufficient certainty, the quantities available under each item for formal competitive bidding. Further, the Comptroller felt that DPSC had used the "floating set-aside" long enough to have acquired needed information on where and how large to make specific set-asides on an item by item basis.

As a result, the DPSC now uses an entirely different structure in designating set-asides. We now designate a certain quantity of various items as set-aside for small business. Hence on each item, the nonrestricted portion and the set-aside, or restricted, protion are fixed at the time the solicitation is forwarded to industry.

You will recall that our jet fuel solicitation each six months had been running in the neighborhood of 40 to 44 million barrels and that approximately 4 to 6 million barrels was set-aside. Actual awards to small business under the set-aside had been approximately 4 to 5 million barrels. And the total of the nonrestricted and set-aside awards to small business was approximately 9 to 10 million barrels.

It is difficult to compare results under the new set-aside procedures with results under the old floating set-aside because our procurement requirements for jet fuel have increased and are now approximately 50 to 55 million barrels each six month. Under the new procedures we have found it necessary to increase the total quantity set-aside for small business from approximately 6 million to 11 million barrels. Of the 11 million barrel set-aside, small business has accepted set-aside awards of approximately 8 million. This is a considerable increase over the 4 to 5 million awarded under the former floating set-aside. However, this increase reflects only a change in the pattern of awards and not an actual increase in overall awards to small business because the total of all jet fuel awards to small business remains at 9 to 10 million barrels. The pattern has changed in that the amount awarded on the nonset-aside portion has decreased and the amount awarded on the set-aside portion has increased a like amount with the result that the total awards of jet fuel to small business have remained essentially the same.

Notwithstanding that it has been necessary to increase the quantity set

LEGAL ASPECTS OF DPSC CONTRACTS

E 1113

by

C. F. Pollock

I will briefly discuss two subjects: the first being the Comptroller General's decision of last November concerning the small business set-aside program in jet fuel procurement: the second being the long range impact of government's contract terms upon industry standards.

I had hoped to be able to also comment on the nondiscrimination clause of our contracts and on the results of the compliance reports which your firms have submitted to the president's committee on equal employment opportunity. However, I must advise that I have been unable to develop sufficient information to discuss the matter today.

SMALL BUSINESS

Last November 17th, in response to a formal protest, the Comptroller General rendered an opinion as to the legality of certain aspects of our small business set-aside procedures for jet fuel procurement.

The Comptroller General considered three basic questions: First, whether partial set-asides were legally authorized by Congress. Second, whether the set-aside awards made by the Defense Petroleum Supply Center in the particular instance involved in the protest, resulted in higher prices than were otherwise available on the formally advertised portion of the procurement: and, if so, the propriety of such awards; and third, whether the "floating set-aside" principal was legally authorized.

The Comptroller General answered the three questions as follows:

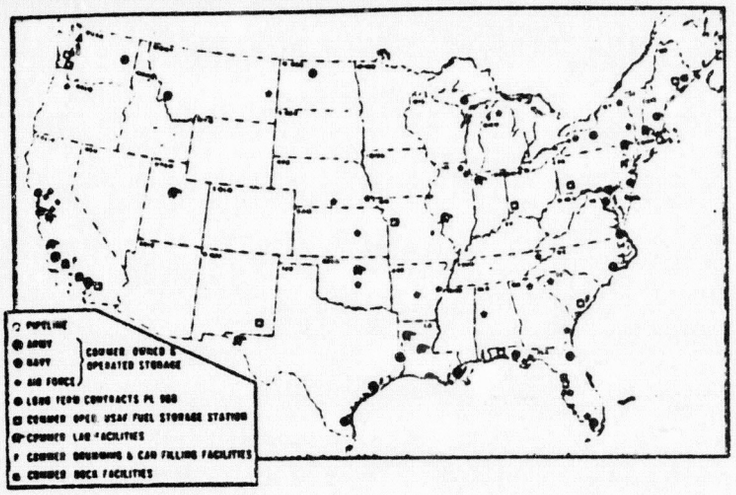
On the first question, which was whether or not partial set-asides were legal, the Comptroller General said that the "Congress, by enacting section 15 of the small business act, has authorized the negotiation of partial set-asides for small business subsequent to the unrestricted formally advertised portion of a procurement." Hence, he confirmed his previous decisions and held that partial set-asides were legally authorized by the congress.

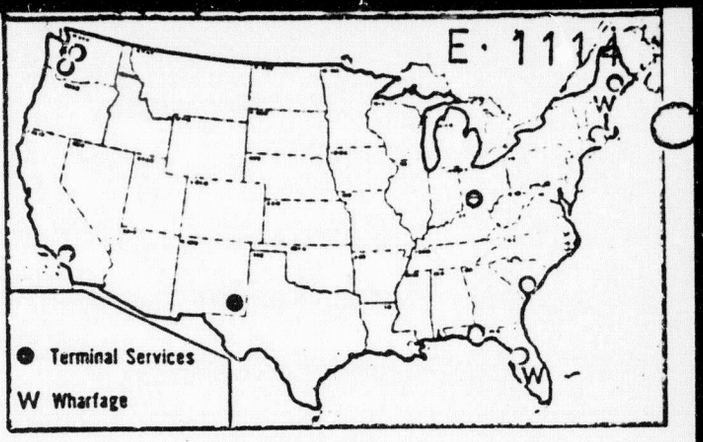
To the second question, the Comptroller General devoted 8 pages of his opinion. It is difficult to concisely brief that much material and not run afoul of possible different interpretations which some of you may have already made. So, please forgive me for slight differences which may be occasioned only by my efforts to be brief.

The second question was whether the specific set-asides in issue were awarded at prices higher than otherwise available, and, if so, the propriety of such awards.

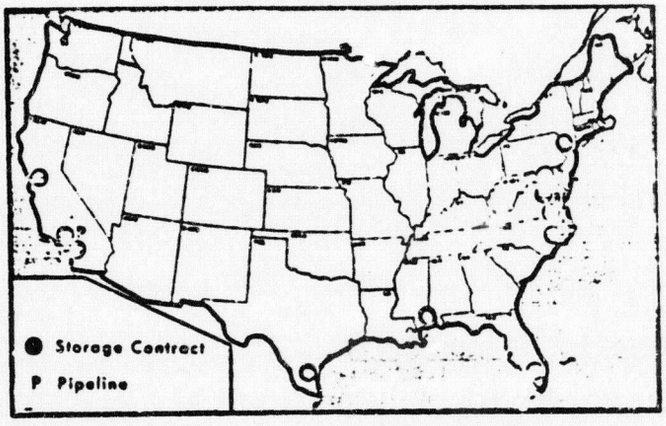
Basically the Comptroller General held that the formula being used by DPSC in determining set-aside award prices was in accordance with past Comptroller General decisions and in conformity with authority granted to DPSC by the department

SERVICE CONTRACTS IN THE UNITED STATES

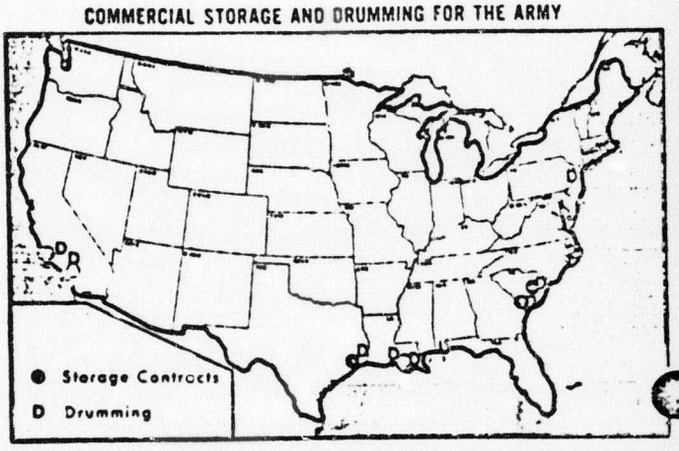




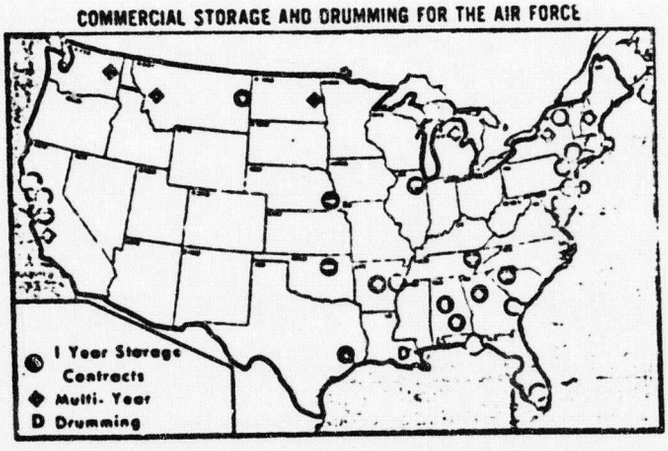
COMMERCIAL STORAGE FOR THE NAVY



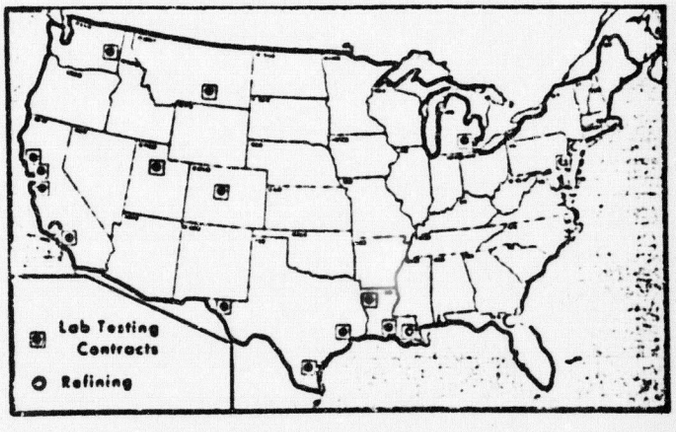
COMMERCIAL STORAGE AND DRUMMING FOR THE ARMY



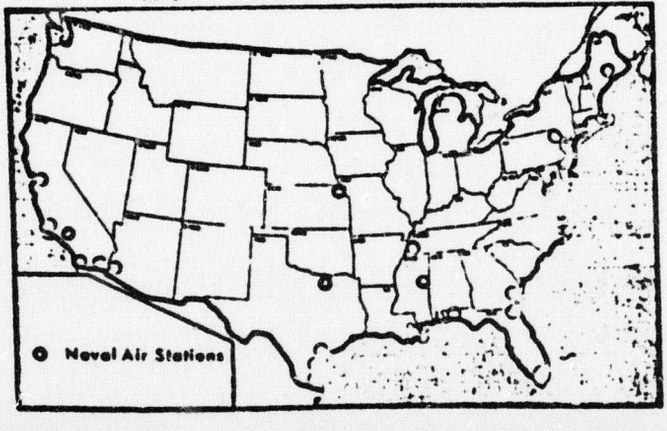
COMMERCIAL STORAGE AND DRUMMING FOR THE AIR FORCE



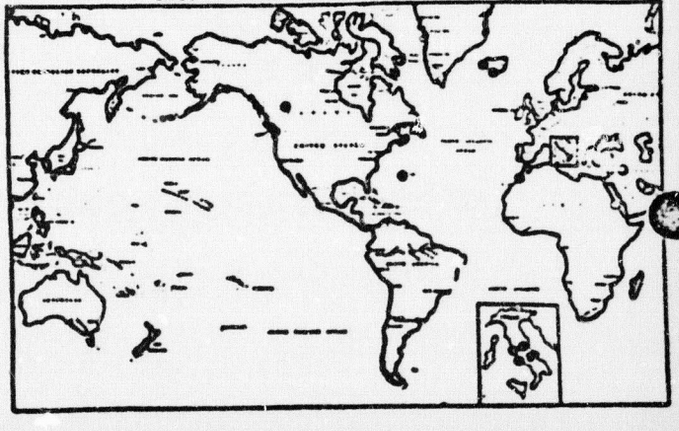
LAB TESTING AND RE-REFINING FOR THE AIR FORCE



AIRCRAFT REFUELING AT NAVAL AIR STATIONS



SERVICE CONTRACTS - WORLD-WIDE
EXCLUDES U.S. MAINLAND AND ALASKA



petroleum services at low cost. We've found that the best method of doing this is through competition. We welcome proposals from companies having a capability to perform any of the services I've described. The Army, Navy, and Air Force develop their own requirements. We will be glad to sound them out on any proposal from any company. We welcome letters of inquiry or visits to our offices on any matter concerning these programs. Many firms which began doing business with us in only one program are now participating in 3 or 4.

So, if your company is doing business with us now, make sure you're receiving solicitations for all our programs you are interested in. If you're not doing business with us or drop in for more information on our programs and to get on our bidder's mailing list.

RE-REFINING

A very small program is for the re-refining of government-owned used aircraft engine oil. This is primarily an Air Force program. The contracts are let by formal advertising and are re-advertised yearly. Under these contracts, the contractor re-refines used aircraft engine oil to produce grade 1100 lube oil. The services required of the contractor all take place at his refinery. There he receives used oil from government transportation, stores it in bulk storage tanks, and later re-refines it for distribution back into government petroleum stocks. We presently have only 3 contracts for these services as shown on the chart by the dots. Of the 25 known suppliers of this service, only 5 are active bidders. We would especially like to interest other companies since the Air Force's re-refining requirements, like the lab ones, are never completely met.

VII. AIRCRAFT REFUELING

(Flash slide 7) Still another of the services we contract for is aircraft refueling for the Navy. As shown on the chart, there are 25 Naval air stations across the country which have private industry refueling its aircraft. These contracts are generally for a 12 month period, although we stagger awards throughout the year. These contracts are totally reserved for small business. They are let by formal advertising.

The contracts call for the contractor, using its own tank trucks and personnel, to fill its trucks at the station fuel depot, transport the government fuel alongside the aircraft in the refueling areas, and, as required, to defuel aircraft, all as directed by the station commanding officer. This is a 24 hour a day, 7 day a week operation. The contractor is paid basically by the month for these services. Presently, there are about 16 companies actively bidding for contracts in the program. All 25 contracts are held by 10 companies. In some locations there is still little competition.

VIII. OVERSEAS

(Flash slide 8) We also have 22 contracts for services to be performed overseas, as shown on the chart. The services provided by these contracts are mostly of the same types as those performed in the States; that is: commercial storage, drumming, and laboratory testing. The contracts are let through negotiation.

Some of the overseas contracts are unusual. For example, we presently have several contracts calling for the injection of anti-icing additive into existing stocks of Air Force jet fuel.

Under these contracts, the contractor provides the additive, men, and machinery necessary to inject a specified amount of additive into the fuel.

CONCLUSION

I should point out that our goal is to provide the armed forces with good

poor prospects for future commercial business, industry was reluctant to build terminals with only a one year guarantee of government use. On the other hand, the government did not desire to bear the entire construction cost in one year. Consequently, we secured legislation permitting firm contracts up to 5 years, provided the storage facility to be constructed met certain criteria on dispersal and hardening.

As shown on the chart, marked by diamonds, mainly across the Canadian border, there are 8 of these contracts presently in operation. The 8 terminals range in size from 90,000 barrels to 1,000,000 barrels. At present we know of no new requirements for services of this type.

V. DRUMMING

(Flash slide 5) The dots on this chart show the commercial storage sites for the Army. As indicated by the "D's", at some of these sites, there is also provided drumming and can filling services. We have 10 drumming contracts: 8 for the Army and 2 for the Air Force. The contracts are for one-year, usually, with government options to renew for several succeeding years.

In drumming, the services performed by the contractor include receiving and inspecting empty drums or cans, storing empty drums, filling drums with government product, storing the filled drums, and loading them aboard government-furnished transportation. The contracts usually provide for the government to pay for each of these services separately.

For instance, for each drum handled we might pay to receive it, so much a month to store it, and so much to fill it and load it for shipment.

Eight companies presently are providing these services for the government. Although more than 70 firms have indicated an interest in this program and are on our mailing lists, geographic factors sometimes result in little competition in some areas. In general, drumming is desired in coastal locations.

VI. LABORATORY TESTING

(Flash slide 6) We also procure laboratory testing services at commercially-owned labs for the Air Force. As indicated by the chart, we presently have contracts in the U.S. at 20 labs. These contracts are very small monetarily. They are let once a year by formal advertising.

Under these contracts, the labs perform all sorts of tests and sample analyses on government petroleum products. Some contracts provide for as many as 40 different tests. The contractor is paid for each test performed.

16 different firms presently have lab service contracts with the center. These firms vary in size from small single proprietorships to the major oil companies. Our invitations for bids are mailed to 87 companies. Even with this number of interested firms, we have trouble every year getting adequate responses to the testing IFB. This year we were unable to get lab services at 5 locations.

services in commercially-owned bulk terminals. (flash slide 3) This chart shows the location of the eleven commercial terminals contracted for on behalf of the Navy. (flash chart 4) the dots on this chart represent the 24 single year storage contracts for the Air Force; on a later chart six terminals for the Army will be shown.

Under many of these commercial storage contracts, the government uses only one or two storage tanks, while under others we occupy the whole terminal. The government is quite flexible as to the specifications of tanks provided under commercial storage contracts.

In furnishing storage services, the contractor provides the required storage, and also handles the government-owned product as it enters and leaves the terminal. Terminal personnel are required to operate the storage being used by the government in much the same manner as the operations required in the government-owned terminals I mentioned earlier.

We let these contracts by negotiation, and any company, large or small, may participate. Prices vary considerably, depending on the size and location of the terminal, the complexity of its operation, ancillary operations, and the competition available in the area.

Though these contracts are initially let for just a 12 month period, most contain unilateral government options to renew the services for several succeeding one year periods. The procurement regulations prohibit contracts of this type for more than one year's duration.

Competition in this program is restricted geographically, since the Military service requiring the storage specified the area in which the terminal must be located. Often there is good competition; often not. At one location I visited recently nearly a dozen different companies had existing storage available. In many areas, however, we have had to look hard for suppliers.

There are presently 28 companies providing single year commercial storage services for the government. Though there are over 100 firms on our mailing lists for all locations, in most areas the likely suppliers are very few.

Most of our single year commercial storage contracts are for the use of existing storage. Occasionally, however, we have a requirement in an area where there is not sufficient existing storage. Then, in order for the contractor to perform the services necessary in providing storage for the government, he must first build the tanks. Although the contract calls for storage services only, we recognize in the negotiations the contractor's costs of construction. Of our 41 single year commercial storage contracts, 6 have some element of construction costs included in their service charges.

IV. MULTI-YEAR COMMERCIAL STORAGE

We have eight multi-year commercial storage contracts. These are the result of requirements for storage in areas where there was no existing storage and where no commercial requirements for petroleum storage were foreseen. Because of the

PROCUREMENT OF SERVICES

by

E 1119

Colonel S. O. Benner, USAF

I. INTRODUCTION

In addition to buying petroleum products described by Capt. Stafford, the Defense Petroleum Supply Center buys services connected with petroleum. We procure these services on behalf of the Army, Navy, and Air Force, and we let contracts throughout the world. We presently are administering some 140 contracts: (flash slide 1) the chart shows the concentration of the 118 contracts we have in the States. I'll show you the overseas locations later.

Our buying programs cover several different types of services. They include the operation of government-owned terminals; commercial storage services; drum and container filling; laboratory testing; re-refining; aircraft refueling; and miscellaneous services, such as the blending of anti-icing additive into government-owned jet fuel.

Many of you presently have service contracts with the center and are providing the Military with excellent services. Many of you are potential suppliers. In some of our programs there isn't much competition. I would like to describe the services involved in each program in hope of developing more industry interest.

II. GOVERNMENT-OWNED TERMINALS

(Flash slide 2) one of our programs is for the operation of bulk storage terminals owned by the Air Force. The contracts under this program are usually for 12 months, but with the starting dates staggered throughout the year. The contracts are let by formal advertising and are reserved for small business. We presently contract for the operation of 10 of these terminals, as shown on the chart. The terminals range in size from 100,000 barrels at Tacoma, Washington, to 1,200,000 barrels at Tiverton, Rhode Island.

In operating these terminals, the contractor performs all the services incident to receiving, storing, and shipping government-owned fuel, plus everyday housekeeping and maintenance of the facility itself. Except for the small tools required in maintenance, little fixed investment is necessary. Basically, the contractor provides the personnel necessary for all terminal operations. This might include only a terminal superintendent, several operators, and a guard.

For the operation of all 10 terminals, the government pays some $600,000 a year. At present, we have 47 companies on our mailing list for this program; but many are not active bidders. All of the contracts are presently divided among only 4 companies.

III. COMMERCIAL TERMINALS

A second buying program in the service contracts division is for storage

the world for U.S. government planes, either civilian or military. These contracts will be found in far away places such as Addis Ababa in Ethopia or Christchurch in New Zealand. We also have what we call world-wide bunkering contracts. These are the surface ship counterparts of the into-plane contracts. Everywhere that U.S. Navy ships or MSTS ships are likely to go we have anticipated their fuel requirements with a contract which enables them to be refueled and serviced.

This in brief is how DPSC furnishes petroleum support to the U.S. Armed Forces.

December of each year and DPSC makes contracts for six months periods, April through September and October through March. We have an annual import quota of clean product of about 12 million barrels and we apply JP-4 against this quota.

Now let us look at our overseas procurement. In other presentations you have been told that our annual volume of procurement is in excess of one billion dollars. About three hundred million of this is for overseas procurement. Overseas procurement is defined as procurement from an overseas source of supply; however, it should be emphasized that the majority of these procurements are from American firms doing business abroad.

The source of supply for our forces overseas are the Caribbean, the Near East, local sources within the foreign countries themselves and in the case of aviation gasoline the United States.

Let us consider the various areas of the world requiring petroleum support. First, the European Area comprising the United Kingdom, France, Germany and Spain. In Great Britain there is a British-owned pipeline extending throughout the country where most of our bases are located and product is delivered through this line. Contract coverage has been arranged for those bases that cannot be served by the pipeline.

Our forces in France and Germany are supplied by a U.S. operated pipeline extending from Donges, near Saint Nazaire on the Atlantic Coast of France, to Germany. As in Great Britain, those locations that cannot be supported by the pipeline are serviced by other means.

The United States Forces in Spain also receive their product by U.S. operated pipeline. The terminal for this line is at Rota near Cadiz on the Atlantic Coast of Spain.

In the Mediterranean Area we have forces in the interior of Italy, Greece and Turkey and the SIXTH fleet is based at Naples. The bases are supplied by local delivery within those countries and to a limited extent from refineries in the Near East. A long-term contract for Navy Special and JP-5 with an American refiner in Italy meets the needs of the U.S. SIXTH Fleet in the Mediterranean.

Turning now to the Far Pacific, our forces in that area of the world are supplied from refineries in the Near East. The requirements for our Army in Korea for the SEVENTH Fleet in Formosa Straits and for the U.S. Air Force in the Far Pacific are satisfied largely through deliveries of product to storage locations in Japan, the Philippines, Okinawa, Guam, etc.

We have covered most of the areas of the world except our military installations North of the U.S. border. Those located in the interior of Canada are serviced principally by Canadian firms on a post-camp-and-station basis. Requirements for Labrador, Newfoundland, Greenland and Iceland come almost entirely from the Caribbean.

There are two additional types of contract coverage quite essential to our needs that I have not mentioned. One of these is the into-plane contract. This is merely another name for refueling service at commercial airports throughout

PROCUREMENT OF PRODUCTS

by

E 1122

Captain O. W. Stafford, SC, USN

Our basic tool for supplying petroleum product to the Armed Forces is what we call an open-end contract. Simply stated an open-end contract is a document which permits the using activities within the Services to order directly from the contractors what they need when they need it. The Military Services give DPSC the estimated quantities and using locations and these in turn form the basis for awarding the open-end contracts.

For purposes of discussion, our procurement effort is divided into two parts: Domestic and Overseas. First, we will discuss domestic procurement.

Insofar as practicable, we take advantage of the vast commercial distribution system for petroleum product that exists in the United States. One of the documents we use for this purpose is called a post-camp-and-station contract. This contract permits the using activity, large or small, to order its motor gasoline, diesel oil, kerosene, and heating oil from a local source of supply as the need arises. A similar arrangement is in effect for supplying lubricating oils and greases.

We are obliged to use a different system of supply for our ships and planes. Although some features of the post-camp-and-station arrangement are retained, the supplying of ships and planes is largely accomplished through centralized ordering within the Services for delivery to government-owned or government-controlled terminals.

Navy Special, as many of you know, is the fuel oil for our ships. It is a specification product made especially for us. At the seaports where we have no facilities for refueling ships, we contract for Navy Special delivered into our vessels. However, the bulk of Navy Special is bought for government-owned coastal terminals. We have an annual import quota of about one and one-quarter million barrels of black product and we apply Navy Special against this quota.

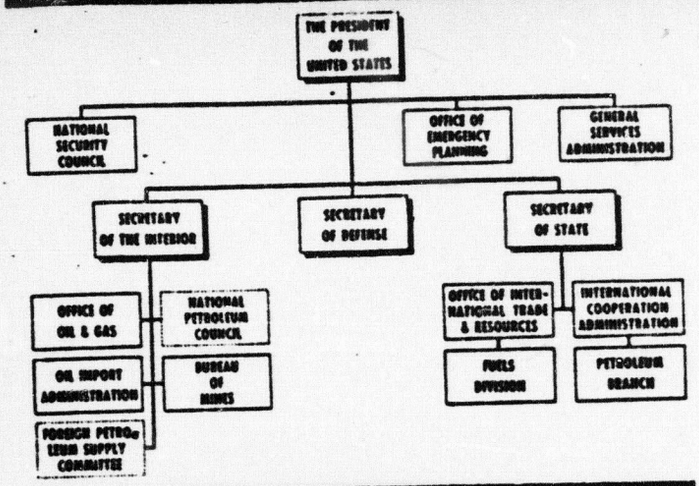
Turning now to aviation requirements we have three principal aviation fuels: JP-4 jet fuel used almost exclusively by the Air Force; JP-5 used by the Navy, and 115/145 aviation gasoline used by all the Services. To give you some conception of the procurement and distribution pattern I have selected JP-4 for comment. Any one of the three fuels would serve but JP-4 has more of an appeal because of the volume and because of the industry-wide interest in this product.

We buy JP-4 for domestic use twice a year by means of advertised procurement. The volume is tremendous by any standards: the last two procurements have each been for about 55 million barrels of product. In these days of millions and billions we tend to lose our perspective. In terms of tank cars, our semi-annual procurement of 55 million barrels of JP-4 would form a train reaching from Washington D.C. to Chicago.

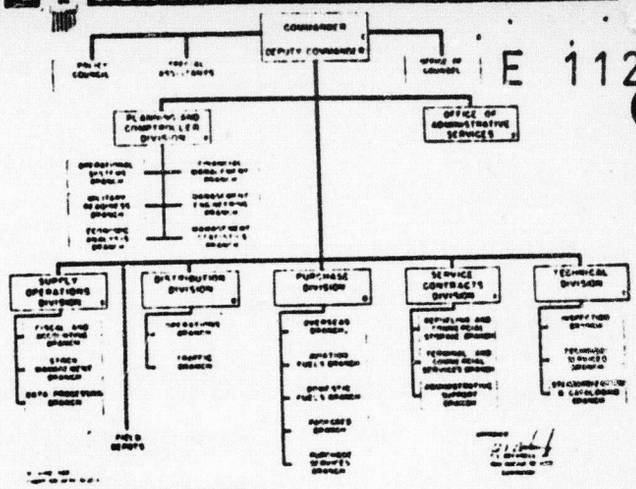
The requirements pattern for JP-4 calls for delivery to ocean terminals, barge terminals, pipeline terminals and for other large volume locations as well as to the smaller installations. The Services submit requisitions in June and

E 1123

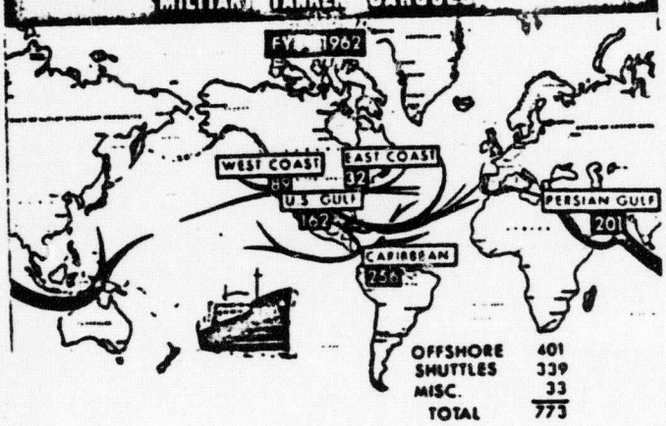
U.S. GOVERNMENT PETROLEUM ORGANIZATION



DEFENSE PETROLEUM SUPPLY CENTER



MILITARY TANKER CARGOES

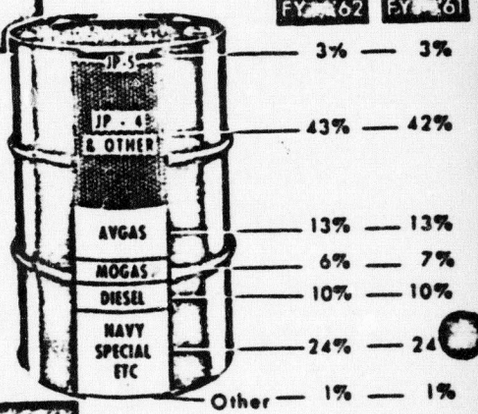


OFFSHORE	401
SHUTTLES	339
MISC.	33
TOTAL	773

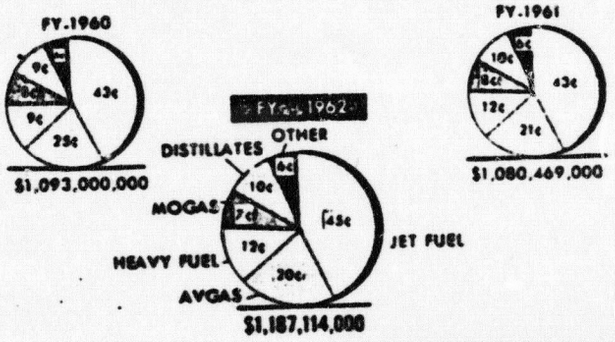
PETROLEUM PROCUREMENT IN BARRELS

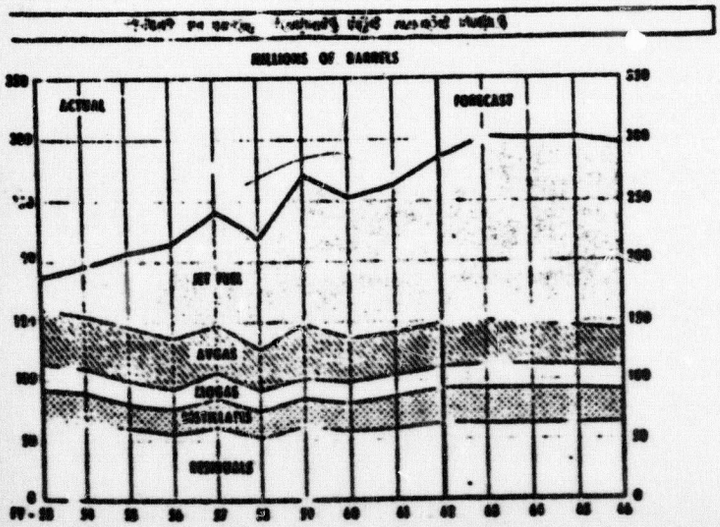
FISCAL YEAR 1962
317,816,000 BBLS

FISCAL YEAR 1961
279,871,000 BBLS

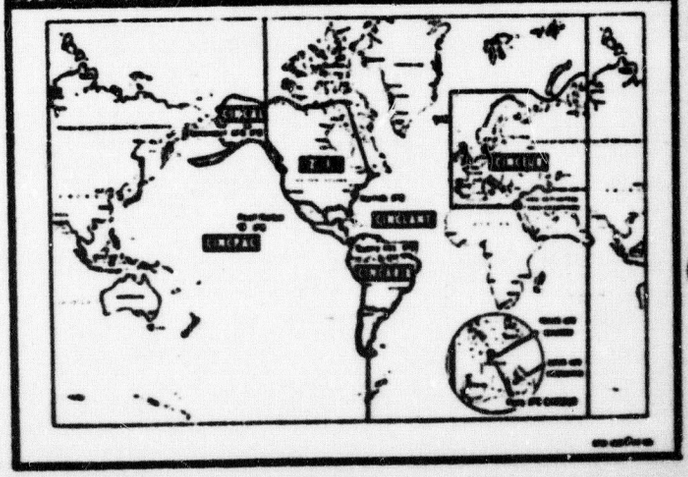


DISTRIBUTION OF PETROLEUM DOLLAR





THE JOINT PETROLEUM OFFICE



nitude of the management of tanker operations.
of tankers. I wish to emphasize that we move
Gulf to the East Coast of the United States, and
st, in addition to movement to the overseas areas.

, as depicted by this Chart, that because of the
and we like to say as a result of better efficiency
more product for less money. The average volume
ears of products procured has been 288 million barrels

f the Procurement Dollar

ent dollar, where does the money go? This Chart
n volume and cost per gallon, the amount that we
he defense dollar for procurement by major product.

rement from the dollar point of view, and this Chart
he amount of volume by product of the average of 288

tion

our scope of operations, unlike other Commodity Centers,
ters of the United States.. In carrying out these re-
he commodity of petroleum, we have petroleum organiza-
. These organizations are called Joint Petroleum Offices,
Joint Chiefs of Staff because of the vital importance
l support to the Unified Commanders. The officers on
Commander provide logistical support planning, and direct
troleum for support of the theater mission. The Offices
bers of the four Military Services. They act as the
demands on DPSC for petroleum products developed by
and consolidated by the Unified Commander to meet the
required for support of Military Forces in the overseas

roleum supply chain from initial determination of require-
ships, aircraft, tanks and trucks around the globe
nal links. The strength of this petroleum supply chain
its toughness and flexibility are attributable to the
n and women in the Government organizations and the

BEST COPY AVAILABLE

E 1125

First, the scope of our commodity assignment is presently limited to the extent that neither ownership nor funding by a single stock fund is provided for the management of all petroleum products. We do not compute new requirements, nor do we exercise stock financing. These functions are still the responsiblity of the individual services. However, in May 1961, the Deputy Secretary of Defense assigned the responsibility for centralized management including stock funding of packaged petroleum products, some 938 items - lubricants, grease, oil, etc. We are in the process of finalizing our procedures for this responsiblity which we will implement 1 October 1962.

Secondly, we differ in our scope of operations from other Commodity Centers in that our responsibility does not end at the waters edge of the Continental U.S. We procure, furnish services, and distribute petroleum products on a world-wide basis. I will elaborate on this later in the briefing.

(2) The principal functions assinged are to -

1. Conduct world-wide procurement of products for the Military Services and some other non-Military Government Agencies.
2. Determine source of product for Army and Navy, arrange tanker transportation and place Army/Navy bulk orders for overseas and East Coast requirements.
3. Coordinate interservice supply support (world-wide responsibility).
4. Contract for storage and services.
5. Direct the procurement inspection program.
6. Coordinate cataloging.
7. Coordinate standardization nationally and internationally (NATO).
8. Coordinate petroleum training, and
9. [illegible] the Commodity Manager on packaged petroleum products 1 October 196[illegible]

(3) Chart [illegible] Governmental Agencies involved in petroleum

(4) DPSC Organization and Functions

To carry out our responsibilities we are presently authorized 212 civilians and 22 officers. Recently we have undergone a reorganization to afford a better posture for assumption of these increased responsibilities.

Planning and Comptroller Functions have been combined under a single division. I wish to point out that the function of industrial mobilization planning is retained by the Office of Petroleum Logistics Policy headed by Admiral Biggs.

Procurement Functions are divided between our Purchase Division, which contracts for products, and the Service Contracts Division, which contracts for services connected with storage, dispensing and testing of petroleum products, etc.

Total world-wide military petroleum requirements during Fiscal Year 1962 rose to a post World War II peak of 317.8 million barrels of product. This vast military usage is equivalent to a consumption of over 70 gallons of petroleum for each man, woman and child in the United States.

Domestic military aviation fuel consumption accounts for approximately 66 per cent of all jet fuel and 51 per cent of all aviation gasoline used in the United States.

Distribution is responsible for coordinating the management in conjunction with MSTS and the Services of bulk petroleum movements by tanker. These movements constitute approximately 50% of our procurement.

Technical. Under our Technical Division are centered the responsibilities for cataloging, standardization, procurement inspection and quality control, and technical support to the overseas commands. I feel that we have made envinble progress in standardization with an item reduction of approximately 40% since 1957.

E 1126

LONG TERM DEBT AND CAPITAL STOCK

PUERTO RICO OIL AND PETROCHEMICAL COMPANY

LONG TERM DEBT:

6% Sinking Fund Debentures * due December 31, 1977	... $34,000,000
6% Sinking Fund Debentures * due December 31, 1982	... $34,000,000

* With Warrents Attached

COMMON STOCK:

Public Offering @ $1.00 *	... $11,000,000
	$79,000,000

* Authorized and Issued: 15,000,000 shares of which 11,000,000 constitutes the Public Offering, first in Puerto Rico, for 60 days, and then open to outside areas. The balance of 4,000,000 shares to management.

In setting forth this plan for financing, the continuation of current market conditions is assumed. In addition, a contingency fund of 20% has been provided for the unforseen.

The Commonwealth will provide the plant site and all area facilities which will be used jointly with others. The company will provide those facilities which it will use exclusively, including the off-shore tanker berths. The Commonwealth will lease the plant site to the company.

E 1128

PHILLIPS PETROLEUM COMPANY

BARTLESVILLE, OKLAHOMA

November 13, 1962

STANLEY LEARNED
PRESIDENT

Prudential Oil Corporation
21 West Putnam
Greenwich, Connecticut

Attn: Mr. N. M. Shippee, Chairman

Gentlemen:

In connection with the Puerto Rico Oil and Petrochemical Company's petrochemical complex to be built in Puerto Rico, Phillips Petroleum Company is prepared to:

1 - Furnish 30,000 to 60,000 barrels per day of crude oil for charge stock;

2 - Purchase the refined petroleum products not consumed in the petrochemical operations;

3 - Counsel with you and assist, if you wish, in the design and construction and operation of the proposed facilities.

Whenever you desire, we shall be glad to have our representative work with you to negotiate and complete contracts.

Very truly yours,

MONSANTO CHEMICAL COMPANY
HYDROCARBONS DIVISION

E 1129

800 NORTH LINDBERGH BOULEVARD
ST. LOUIS 66, MISSOURI

November 19, 1962

Mr. E. J. Willey
Prudential Oil Corporation
21 West Putnam Avenue
Greenwich, Connecticut

Dear Mr. Willey:

Your letter of November 12 has been received.

We do have a potential requirement for a waxy feedstock for petrochemical manufacture. However, this material will be utilized in our pending project only if:

(1) Quality satisfactory
(2) Price within specified limits
(3) Availability clearly determined within next few months.

If these conditions cannot be met, our project will move in a completely different manner, involving different raw materials.

The desired waxy feedstock should:

(a) Be a 600-900°F. vacuum distillate
(b) Contain 30% wax
(c) Be as low in sulfur as possible
(d) Pass a final evaluation in our process.

If successful in "putting together" an operation based on such a feed, 15,000-20,000 bbl./day of the distillate would be required.

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E 1130

We would certainly be interested in evaluating a sample of any proposed raw material. If whole crude is furnished, a five-gallon quantity would be needed; if 600-900°F. cut can be supplied (this is more desirable), one-gallon would be sufficient. In either event, sample should be shipped to:

Dr. B. L. Williams
Monsanto Chemical Company
Texas City, Texas

We should receive several weeks' advance notice on any shipments.

Your interest in working with us is appreciated; of particular interest is your statement that our pricing requirement can be met. We will look forward to hearing from you further.

Sincerely,

Norman J. Lewis

Norman J. Lewis

NJL/vc

E 1133

PROCESSING AND ECONOMIC DATA

FOR A PROPOSED PUERTO RICO REFINERY

INTRODUCTION

The primary purpose of this study is to act as an aid in the investigation of the general economics and technology of a proposed 60,000 barrels per day (BPD) refinery processing a typical Venezuelan crude to produce normal petroleum fuels as well as the maximum feasible quantity of petrochemical raw materials and intermediates.

Included in this report are tables showing the operating cost and expenses, profitabilities and yield estimates of the various process units utilized in the original scheme and addendum thereto. Also, a general description of the processes with their flow diagrams are present.

The attached process and economic study is largely based on information developed and processed by Universal in regards to Puerto Rico. However, while the study has been prepared by us in accordance with established engineering practice and is useful in evaluating the proposed refinery and operations, it does not constitute any warranty, representation or guarantee with respect thereto. It is understood that Universal Oil Products Company's name shall not be used in connection with any prospectus or securities registration statement to be filed by your company with any governmental agency.

Product Price	$/Bbl.	¢/Gal.
Premium Gasoline	4.979	11.86
Regular Gasoline	4.628	11.02
No. 1 Fuel Oil	3.896	9.28
No. 2 Fuel Oil	3.430	8.17
No. 6 Fuel Oil	2.151	5.12
Pitch	1.800	4.29
L.P.G. (C_3)	2.964	7.06
Mixed C_3's	2.964	7.06
Mixed C_4's	2.964	7.06
Benzene	10.500	25.00
Toluene	7.560	18.00
C_8 Aromatics	6.300	15.00
Raffinate	4.041	9.62
Naphthalene, ¢/#	—	(5.0)

Operating Costs

In constructing the operating costs for a Puerto Rican refinery various costs such as labor, utilities, fringe benefits, operating personnel requirements as effected by local labor efficiency, and other associated costs were taken into general consideration based on knowledge from current similar operations present in Puerto Rico.

Estimated Process and Offsites Investment

The estimated capital investment for process and offsites facilities of the proposed schemes are based on curve estimates of current day costs of similar equipment erected at a U.S. Gulf Coast location. These cost estimates are subject to precise design definition; however, they are sufficiently accurate for planning purposes. There may be some question arise as to the differences that construction costs would be lower in Puerto Rico than the United States Gulf Coast. It is believed that all major items of equipment will be shipped in from the U.S. which will increase material costs somewhat over Gulf Coast prices. Labor prices are lower in Puerto Rico but considering the available pool of skilled labor in Puerto Rico to construct a 60,000 BSD refinery is quite small. A construction firm would need to import continentals to supply the skill job classifications. This labor cost as well as somewhat higher material costs should just about equalize capital investment in Puerto Rico to that at the U.S. Gulf Coast location.

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Yield Estimates

The exactness of the yield estimates shown throughout are adequate for the purposes of this report, but will require confirmation for precise process designs. Depending on the final settlement of the type of crude to process and type of products to be produced will determine the process scheme as well as more precise yield.

In order to provide the highest reasonable degree of accuracy in the estimates made through this report, the respective product distribution and erected cost are based upon processes licensed by Universal Oil Products Company. Specific processes of the same general type will experience somewhat different product distribution and erected cost. Because of our greater familiarity with the specific capability and cost factors of these processes as compared with competing processes, the estimates shown in this report are based on processes as follows:

Specific UOP Process Used as Basis for Evaluation
Fluid Catalytic Cracking Process Unit (F.C.C.)
UOP Catalytic Condensation Process Unit
UOP 'HF' Alkylation Process Unit
UOP Platforming Process Unit
Unifining Process Unit
Udex Process Unit
Hydeal Process Unit
UOP Merox Process Unit

Other non-licensed processes and offsite facilities are the type that Universal has had many years of commercial experience in the design and economic evaluation.

Site Investigation Trip to San Juan

On February 20, 1962, a preliminary site survey was conducted in Puerto Rico.

The following are comments and general findings on the various locations viewed from the aerial and motor trip:

The north and east coasts of the island were ruled out due to lack of suitable unoccupied port sites. San Juan is already the site of one petroleum refinery and Roosevelt Roads is a U.S. Naval & Missile Base. Furthermore, the prevailing winds are northeasterly.

Five port sites were selected for consideration on the east, south and west coasts of the island, namely, Puerto Yabucoa, Bahia de Jobos (Central Aguirre), Bahia de Guayanilla, Bahia de Guanica and Bahia de Anasco. Each of these prospective sites will be discussed in detail.

Puerto Yabucoa

Playa de Guayanes is a small town serving as a port for Yabucoa located five miles inland. Yabucoa has a population of 5,300 with general stores, two small hotels, a hospital and telephone and telegraph facilities. San Juan is located 50 miles northwest by highway. The sugar industry furnishes business for the town and port. Only vessels of 14-foot draft or less can enter the harbor and the passage is difficult. Vessels navigate in and out of the harbor during daylight hours only. Strong northeasterly afternoon breezes make two anchors on a vessel necessary. Deep water is 1700 yards off shore and unprotected from the weather. The bay is two miles wide with numerous reefs and sunken rocks. An extended area of level, firm ground runs back from the bay to Yabucoa.

Bahia de Jobos

The harbor of Bahia de Jobos consists of an anchorage 5 miles long and varying in width from 1/2 mile to 1 mile. However, only 50% of this area is of a depth of 23 feet or greater. The bottom is soft and ships' anchors would drag during a hurricane. The land surrounding this harbor is low-lying and swampy. However, farther inland there are extended areas of level, firm ground.

The town of Central Aguirre located on Bahia de Jobos has a population of 3,000 with telephone and telegraph services. The sugar industry has a pier here 1,300 feet long. Vessels drawing up to 23 feet can berth on either side of it.

E 1137

Bahia de Guayanilla

Bahia de Guayanilla, located 7-1/2 miles west of Ponce, is the largest hurricane harbor, and one of the best in Puerto Rico. It can accommodate vessels of 40 feet draft or less. Commonwealth Oil Refining Company and Texas Company have wharves in this bay.

The town of Guayanilla with a population of 2,000 to 3,000 is located two miles inland and has no urban facilities. The limited amount of level ground between the bay and the town is rather low-lying for refinery construction. Punta Verraco, a point of land 1/2 mile wide and 1-1/2 miles long extending eastward outside the bay has no level land areas suitable for a refinery site without considerably land-leveling or benching and in time the area might prove to be rather cramped. Furthermore, a state forest is located just west of the bay and as a recreational resort might cause public relations problems for a petroleum refinery at some future date. The city of Ponce is located 12 miles to the east.

Bahia de Guanica

Bahia de Guanica is a good, natural harbor but too small and shallow for the berthing of oil tankers. Two small towns are located on the bay, Ensenada and Guanica. Each has a population of about 4,000 to 5,000. Telephone and telegraph services are available at both towns.

Bahia de Anasco

Bahia de Anasco is on the west coast of the island facing Mona Passage. Deep water runs in close to shore. In one area the water is 48 feet deep within 300 yards of the shore line. (This 48 feet depth area should be checked by sounding to confirm the hydrographic map.) On shore, extended areas of firm, level ground are available for choosing a refinery site, also electrical transmission lines run through this area. Judging from the lay of land sufficient fresh water should be available from water wells. However, in case additional water should be necessary, water reservoirs could be constructed without great difficulty in the hilly country just north of Bahia de Anasco.

The town of Anasco with a population of 3,500 is located 4 miles to the east of the bay and the city of Mayaguez with a population of 50,000 to 60,000 is located 12 miles to the south of the bay. Mayaguez has a shipping terminal that can accommodate vessels of 30 feet draft. This shipping terminal has a wharf 1200 feet long equipped with a shed 800 feet long by 60 feet wide plus various pieces of modern equipment for the mechanical handling of cargo.

Mayaguez has a number of stores and shops, two good hotels, telephone and telegraph service, an airport serviced by scheduled airline flights, plus a branch of the University of Puerto Rico. San Juan is 118 miles away by coastal highway. On Punta Higuero, 10 miles north of the bay, is a nuclear reactor in the construction stage.

After deliberating over the advantages and disadvantages of the five above-mentioned possible sites for a petroleum refinery, we believe that the Anasco Bay area should be chosen for the following reasons:

(1) A large area of firm, level land from which to choose a refinery site without pre-empting established settled areas.

(2) A bay which can be without difficulty fitted out with oil tanker berthing facilities.

(3) Likelihood of a good supply of fresh water.

(4) A petroleum refinery located here would be close to two centers of population - the town of Anasco and the city of Mayaguez. With these two centers of population nearby a ready-made labor market is at hand - already housed.

(5) The fact that there is a branch of the University of Puerto Rico in Mayaguez might be of interest to permanent refinery employees.

(6) Mayaguez has a suitable port for unloading construction material and refinery equipment with only a short haul to the refinery site.

(7) A petroleum refinery located on Bahia de Anasco would be in a favorable position to fuel ships sailing the Mona Passage.

(8) The area around Mayaguez and Bahia de Anasco has been by-passed by the rising tide of Puerto Rico economic development which is so evident at San Juan and Ponce.

(9) This area is serviced by a regularly scheduled airline as well as chartered flights.

(10) The area has a modern highway traversing it, backed up by a substantial secondary road system.

(11) Electrical power transmission lines run through this area with the power generating stations not too far away.

The only disadvantages that a petroleum refinery located near Bahia de Anasco would have is the fact that oil tankers serving the refinery would not have the protection of a suitable harbor like Bahia de Guayanilla.

A petroleum refinery located on Bahia de Guayanilla would have many of the same advantages listed for Bahia de Anasco, namely:

(1) It would be located close to a large center of population - the city of Ponce with a population of 100,000 to 110,000.

(2) Ponce has good port facilities.

(3) The area is served by a regularly scheduled airline as well as chartered flights.

(4) The area has a modern highway system.

(5) Electrical power generating stations are in the area.

(6) The Bahia de Guayanilla is an excellent harbor.

The disadvantages of locating a petroleum refinery in the Bahia de Guayanilla would be two:

(1) The smaller area of firm, level ground from which to choose a refinery site.

(2) The question of a good supply of fresh water must be investigated.

After reviewing the advantages and disadvantages of these two areas - Bahia de Anasco and Bahia de Guayanilla - it is apparent that the choice of a site hinges on whether oil tanker berthing facilities at Bahia de Anasco would cost a great deal more than similar facilities at Bahia de Guayanilla and, also, whether the Commonwealth of Puerto Rico wishes a further concentration of industry around Ponce or give the economy in the area around Bahia de Anasco and the city of Mayaguez a lift.

On Stream Time

345 stream days per year have been used giving a 95% on stream efficiency. For example, 60,000 barrels per stream day (BSD) of crude charge to the crude unit is 57,000 barrels per calendar day (BCD). The other 20 days left in the year are for process maintenance.

Utilities

Electricity - Assume purchase of power from Puerto Rico Water Resources Authority.

Refinery Fuel - Refinery fuel gases produced from the various processing units with the supplement requirements made up by using visbreaker pitch. Gaseous fuel deficiency would be made up by the pitch, which would be used preferably in the atmospheric and vacuum distillation and visbreaking unit.

Water Supply - A potable water supply for refinery sanitary facilities and steam boiler make-up is assumed to be obtained from fresh water wells. Process cooling water will be sea water.

Steam Generating Facilities - Sufficient refinery steam generating facilities have been provided even in the cases where a process having waste heat-steam generation facilities may be upset.

Inventories - Crude and Products

Since crude and product inventories tie up a large dollar value in a refinery of 60,000 BSD capacity, a strict control and review should set policy on this matter. It is assumed that crude inventory is twenty days for this size refinery. A leasing of super tankers to handle crude delivery should be investigated. A round trip for crude delivery by super tanker is considered about 5-8 days between Venezuela and Puerto Rico.

A thorough investigation of the pitch and LPG local markets will aid in determining the economics of supplementary refinery fuel gas with either pitch or LPG. Large LPG inventories can be costly from the storage standpoint.

Acquirement of Total Capital Investment

The total capital investment was assumed to be raised by the following means as stipulated by Omega Management, Incorporated.

20% of capital investment will be equity capital
80% of capital investment will be convertible sinking funds debentures, 6% interest rate, 20-year term.

In determining the economics of their study, it was assumed that the yearly sinking fund payment is 1/20 of the total debentures. Yearly payment is made at the end of the year and from income after taxes. The 6% interest rate on the sinking fund debentures is one the year beginning unpaid balance of debentures.

Equity capital is in the form of common stock.

Income and Property Tax

During the first ten years of the proposed cases no corporate income or property tax is due. The rates used after that are based on the current rates as developed by the Department of the Treasury, Commonwealth of Puerto Rico and listed in "What You Should Know About Taxes in Puerto Rico", 1961 edition.

Depreciation Rates and Items

Depreciation rates and items used in the economics of their study are considered normal for a typical refinery. However, there are always extremes from the average for various reasons and is determined by company policy, within government regulations.

Process and offsites facilities and starting capital are considered the depreciable items. Depreciation rate is as follows:

1. Process capital - straight line on 15 years life - 10% salvage value
2. Offsites capital - straight line on 20 years life - 10% salvage value
3. Startup capital - straight line on 10 years life.

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PROCESSING AND ECONOMIC DATA

FOR A PROPOSED PUERTO RICO REFINERY

New BASIC CONSIDERATIONS

In performing the study certain assumptions were made and are listed in this section under various categories.

New Crude Oil Supply and Price

In reviewing the crude oils that are available from Venezuela, several crudes were found to be typical and in sufficient production quantity that could supply the needs of the proposed refinery. For this study, a Venezuelan crude known as Tia Juana Medium crude was used. This crude is believed to be available for long term contracts. A laid-in price at the refinery for this crude was taken at $2.35/bbl.

Product Market and Prices

The quantity of petroleum products produced from a 60,000 BSD refinery located in Puerto Rico were assumed to be, to a great extent, exported out of the country to the east coast markets of the United States. Current output of the two refineries presently in Puerto Rico far outdistances current and future demands of petroleum fuel for local market consumption. A relatively high percentage of the current refinery outputs are exported to the east coast markets. The assumption was also made with petrochemical raw materials and intermediates although joint ventures or future petrochemical expansion would limit the export of petrochemicals so derived.

Therefore, all petroleum fuel products and petrochemical material were assumed to have sufficient export and local markets to absorb all production quantities. It is suggested than an organization contemplating entering in the refining or petrochemical industry should make a close examination to determine their market position as to the type of products and quantities they wish to handle under long term manufacturing contracts.

Product prices used in the study are believed to be those generally applicable to those received at the refinery gates in the Puerto Rico area. They are a combination of local market prices and export market prices.

PROCESSING AND ECONOMIC DATA

FOR A PROPOSED PUERTO RICO REFINERY

E 1143

PROCESS DESCRIPTION AND YIELDS

INTRODUCTION

Block flow diagram No. 76845-C-O shows the general processing scheme that is utilized in this case. The main considerations were to design a refinery with a maximum of flexibility to produce normal petroleum fuels and a maximum of petrochemicals and petrochemical feedstocks. The flexibility of design is required to provide additional petrochemicals and petrochemical feedstocks in the future.

The process flow is described below:

CRUDE DESALTING

While the crude used for this study does not show an appreciable amount of salt, electrical desalting equipment is provided to enable crudes to be processed, which are less satisfactory in this regard.

ATMOSPHERIC DISTILLATION

In this scheme one 60,000 BSD unit is considered rather than the possibility of two smaller units of 30,000 BSD capacity each.

Preflashing or prefractionation is chosen to give the most economical use of heat. A light straight run stabilizer is provided. The Tia Juana Medium light straight run in particular needs to be stabilized and while the stabilizer could be omitted with the light straight run stabilized in the FCC Gas Recovery unit, this would reduce operating flexibility. Only one grade of gasoline then could be produced.

A light naphtha, 165-270°F., is taken overhead from the atmospheric crude column and is processed in a Unifiner for sulfur removal and is further processed as described later. A heavy naphtha, 270-450°F., is taken as a side stream from the crude column and is processed in a Unifiner for sulfur removal and to further processing as described later. A middle distillate (450-650°) is taken as a side stream from the crude tower, processed in a Unifiner for sulfur reduction and sent to storage as a finished product. The reduced crude from the bottom of the crude tower is sent to vacuum unit.

VACUUM DISTILLATION

The function of this unit is to prepare vacuum gas oil as charge to the FCC unit. It should be designed carefully to keep entrainment of asphalt from the gas oil to a minimum and thus at the same time keep the metal contaminants, harmful to the FCC operation, at a minimum in the FCC feed. The vacuum pitch obtained from the bottom of the vacuum unit is sent to the visbreaking unit.

VISBREAKING UNIT

Visbreaking is particularly advantageous in a dual process function. It prepares distillate stocks and at the same time reduces the viscosity of residual bottoms so that less cutback material is required to meet No. 6 fuel oil specification. Light materials from this operation are sent to FCC Gas Recovery system for recovery of the C_3's and C_4's. The visbreaker gasoline is split into two fractions, a C_5-270°F. and a 270-400°F. material. Each fraction is joined with the respective virgin naphtha fraction, processed in a Unifiner for sulfur reduction and olefin saturation, and then to further processing as described later. The vacuum pitch is sold with cycle stock (FCC cycle oils) as No. 6 fuel oil or burned as a fuel within the refinery or by other industrial consumers close to the refinery.

FLUID CATALYTIC CRACKING AND GAS RECOVERY UNITS

This system of Catalytic Cracking has been chosen as it has been most widely accepted in the industry and is the most representative. The function of this unit is to convert heavy distillate oils into high octane gasoline and to reduce the overall refinery fuel oil production. Current designs are noted for simplicity, ease of operation and low operating and investment costs. The process also gives good yields of mixed C_3 and C_4 saturate and olefin compounds which can be used for alkylation, catalytic condensation or for petrochemical intermediates.

Charge stock for the FCC has been prepared by the vacuum unit. A conversion level of 70% has been used in this scheme for maximizing light olefin production. However, as mentioned in the introduction, if the pitch sales are not large, conversion level could be reduced for sufficient cycle oils to be produced for blending into No. 6 fuel oil.

FLUID CATALYTIC CRACKING
AND GAS RECOVERY UNITS (Cont'd)

The gas recovery section (gas concentration) may receive, in addition to the light products from the FCC unit, light products from other refinery sources as straight run stabilizer overhead, Platforming debutanizer overhead and the visbreaking light material. The gas recovery section produces fuel gas, mixed C_3's and C_4's and a debutanized gasoline which is routed to the gasoline pool as a blending component.

LIGHT AND HEAVY NAPHTHA UNIFINING UNITS

An uncomplicated, easily operated process for eliminating sulfur, nitrogen and metallic impurities from petroleum distillates, Unifining provides a simple and economical answer to an operating problem that is frequently difficult and costly to solve by other methods. Also Unifining will simultaneously saturate any olefin present in the feedstocks. It clearly removes impurities and prepares feedstocks of ideal properties for further processing.

Unifining works particularly well in combination with Platforming. It is ideal for pretreating Platformer feedstocks and the excess hydrogen from the Platformer is an excellent, low cost hydrogen source for the unit.

The feed to each of the naphtha Unifiners is comprised of the respective boiling range virgin naphthas from the crude unit and the visbreaker gasolines. Sulfur reduction and olefin saturation occurs during this operation. Hydrogen required for these steps is received from the Platforming unit. H_2S and light materials produced during Unifining are stripped in the Unifiner stripper. The stripper bottoms then become charge to the Platforming unit.

B-T-X PLATFORMING AND
HEAVY NAPHTHA PLATFORMING UNITS

This is one of the most widely used processes in the refining industry. In operation on a broad scale it has proved to be practical and an economical process for upgrading low octane gasolines.

Platformer feedstock is received from the Unifiner stripper. Processing conditions are selected so that a 90 F-1 clear C_5+ Platformate is obtained from the Platformer debutanizer and is routed to the gasoline pool as a high octane

B-T-X PLATFORMING AND
HEAVY NAPHTHA PLATFORMING UNITS (Cont'd)

blending component. The debutanizer overhead material is sent to the FCC recovery unit for recovery of propane, iso and normal butanes present in the streams. The net separator gas becomes a source of low cost hydrogen for the Unifining operation.

Under proper operating conditions, Platforming fits well into the growing demand for petrochemicals as it is highly efficient for producing a material that contains aromatics such as benzene, toluene and xylenes and these can be readily extracted from the Platformate. As in this scheme, a Unifined naphtha in the boiling range of 165-270°F. is the feedstock for B-T-X Platforming operations. A depentanized Platformate is obtained and this becomes feedstock to a Udex unit as described later. A C_5's and C_4's fraction is recovered and sent to the gasoline pool as a blending component. The depropanizer overhead material is sent to the FCC gas recovery unit for recovery of propane. The net separator gas becomes a source of low cost hydrogen for the Unifining operation.

Within a recent period, under proper operating conditions, it has been found that the Platforming process may produce a material from which naphthalene could be derived. As in this scheme, a Unifined naphtha in the boiling range of 270-450°F. is the feedstock for heavy naphtha Platforming operations. A total depropanized Platformate is obtained which is rerun into a C_4-390°F. and a 390-E.P.°F. fraction. The C_4-390°F. fraction is routed to the gasoline pool as a blending component. The 390°-E.P. fraction becomes a feedstock for further processing as described later for naphthalene production. The depropanizer overhead material is sent to the FCC gas recovery unit for recovery of propane. The net separator gas becomes a source of low cost hydrogen for the naphthalene operation.

DISTILLATE UNIFINING

This proposed method of distillate treating, where hydrogen is available, is based on Universal's considerable experience in the Unifining of distillate oils. Sulfur reduction to meet specifications is the prime function of this operation and the required reduction is readily obtained.

DISTILLATE UNIFINING (Cont'd)

The middle virgin distillate (450-650°F.) as obtained from the crude column combines with a necessary portion of the B-T-X Platformer net separator gas and after heating passes into the Unifiner reactor system. Sulfur reduction in the distillate fraction is the prime purpose of this operation. The product after the Unifiner reactor is stripped and rerun to meet flash point specification to give a product as No. 2 fuel oil.

UDEX EXTRACTION AND B-T-X RECOVERY UNIT

The Udex process is designed to prepare high purity aromatics from catalytic reformate. The Udex process has been proved commercially to be an outstanding method for the preparation of aromatics of purities not previously attained. The aromatic products of the Udex process will not only meet the established ASTM nitration grade specifications but will exceed them. Nitration grade benzene has a minimum solidification point of 4.85°C. The benzene produced commercially from catalytic reformate processed in Udex units has consistently been well above the 5.40°C solidification point. The toluene fraction will have comparable freedom from paraffin impurities. High aromatic product purities are attained which maintains high recovery efficiencies. The benzene recovery efficiency attained in commercial Udex operation has been well above 99%.

The feedstock for the Udex unit in this proposed scheme is the depentanized Platformate obtained from the B-T-X Platforming operation. Through the extraction step, the extract product so obtained has a high purity aromatic content.

However, the extract contains traces of unsaturates, which would limit the purity of the final products and may also contain traces of residual non-hydrocarbon compounds which would spoil the acid-wash color test of the final products. To destroy these trace impurities the extract is processed through Attapulgas or similar clay before final distillation.

UDEX EXTRACTION AND
B-T-X RECOVERY UNIT (Cont'd)

Redistillation of the product is accomplished in three columns in succession making pure benzene and toluene respectively as overhead products, a C_8 aromatic fraction as overhead product and a C_9 plus aromatics product off the bottom of the xylene column.

The isomer distribution in the C_8 aromatic fraction derived from petroleum stocks is approximately:

	Vol.%
ethylbenzene	20
p-xylene	18
m-xylene	42
o-xylene	20

The raffinate obtained from the extraction step is highly paraffinic and needs very little treatment before it is sent to storage. It can be used as a low octane blending component, a jet fuel blending component, or a charge stock for an ethylene cracking process.

HYDEAL

The Hydeal Process is a new process recently announced by Universal. This process is designed for the conversion of alkylbenzenes to benzene or alkylnaphthalenes to naphthalene.

The Hydeal unit proposed for this scheme is designed to convert alkylnaphthalenes to naphthalene. Feedstock is derived from the Heavy Naphtha Platforming operation. The 390-E.P.°F. Platformate fraction usually contains sufficient quantities of alkylnaphthalenes for economical conversion of these compounds into naphthalene. Also present in these feedstocks are some alkylbenzenes that are converted to benzene. The hydrogen source for this reaction is the net separator gas from the Heavy Naphtha Platforming operation.

MEROX

The UOP Merox Process is a fairly new process announced by Universal and is additional evidence of UOP's policy of providing the refining industry with every means for a well-rounded, profitable manufacturing operation. This process provides a low cost operation for treating gasoline and lower boiling fractions for removal of mercaptans, or sweetening heavier stocks by converting mercaptans to disulfides.

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ADDENDUM

ISOMAX CASE

An alternative scheme with respect to the base case considered in our study of April 13, 1962 is presented herewith.

The alternate case included the following changes with respect to the base case:

1. The Fluid Catalytic Cracking Process unit has been replaced by an Isomax Process unit.

2. A hydrogen manufacturing plant has been added to satisfy hydrogen requirements for the Isomax Process unit.

3. The aromatics producing facilities have been increased in size. Additional charge will be gasoline from the Isomax Process unit.

The same general statements and assumptions as presented in the base case apply to this alternate case.

Block flow diagram No. 76845-C shows the general processing scheme of the Isomax Case. The main considerations were to produce normal petroleum fuels that will meet general product specifications as well as producing petrochemicals.

Attached tables I through XXII show economic and technical information on this alternate case.

The scheme presented indicates a fairly good return of common equity. It is estimated that a 60,000 B/D refinery following this scheme can be built in Puerto Rico at a cost of about $68 million, including working capital and start-up expenses. This cost exceeds the base case cost by $11 million. However, the payouts in both cases are similar and the net earnings on equity in the Isomax Case are over $9 million above the base case in a 20-year period.

The alternate case offers the following additional advantages:

1) The Isomax Process is characterized by an inherent ability to process a widely diversified range of charging stocks. Included in the list are not only the virgin stocks varying in boiling range from kerosenes to heavy vacuum gas oils, but thermal and catalytic cycle stocks as well.

2) In addition to versatility as regards charging stock Isomax is a very flexible process. Never before have refiners had such control over maximizing gasoline production or conversely middle distillate production. This is particularly important in order to meet changing market demands.

3) Due to the flexibility of Isomax, product inventories can be reduced.

4) The naphtha produced in an Isomax unit is an excellent feedstock for Platforming to produce high grade gasoline and/or aromatics.

5) High quality middle distillates are produced with Isomax.

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LIST OF TABLES AND DRAWINGS

Table I	Estimated Net Operating Income
Table II	Estimated Direct Operating Cost
Table III	Estimated Utilities
Table IV	Estimated Personnel Requirements
Table V	Estimated Personnel Requirements and Costs
Table VI	Estimated Process Investment
Table VII	Estimated Offsites Facilities Investment
Table VIII	Estimated Initial Inventory Requirements
Table IX	Estimated Startup and Working Capital
Table X	Estimated Total Investment
Table XI	Estimated Gross Manufacturing Margin
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Table XIII	Estimated Crude and Vacuum Unit Yields
Table XIV	Estimated Visbreaking Yields
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Table XVI	Estimated UDEX Yields
Table XVII	Estimated Heavy Naphtha Platforming Yields
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Table XX	Estimated Gas Concentration Unit Yields
Table XXI	Estimated Gasoline Pool
Table XXII	Estimated H_2 Production and Consumption
Drawing No. 76845-C-Rev.0	Block Flow Diagram of Normal Refinery Fuels and Petrochemicals.

PROCESSING AND ECONOMIC DATA

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TABLE II

ESTIMATED DIRECT OPERATING COST

	$/SD
1. Refinery Labor	
Including Maintenance, Safety, Warehouse and Utilities	6,868
2. Tetraethyl Lead	
Cost @ 0.25¢/cc T.E.L.	1,645
3. Maintenance - Offsites and Process	5,985
4. Laboratory and Miscl. Supplies	200
5. Catalyst	
(a) Isomax catalyst @ 30 bbls/lb per stage @ $1.60/Lb	1,517
(b) Platforming catalyst	
1. B-T-X Platformer - 50 bbl/lb	623
2. Hvy.Naph.Platformer - 55 bbl/lb @ $3.45/lb net replacement	839
(c) Unifining catalyst	
1. Naphtha Unifiner @ 200 bbl/lb @ $1.60/lb	116
2. Distillate Unifiner @ 200 bbl/lb @ $1.05/lb	62
(d) Hydeal catalyst @ 5 bbl/lb @ $1.00/lb	248
Total Catalyst	3,405
6. Chemicals and Inhibitor	
(a) Gasoline additives	
1. Sweetening agent 3 lbs/1000 bbls @ $1.00/lb	39
2. Corrosion inhibitor, 6 lbs/1000 bbls @ 39¢/lb	30
3. Metal inhibitor 1 lb/1000 bbls @ $1.00/lb	13

(contd.)

TABLE II (contd.)

ESTIMATED DIRECT OPERATING COST

	$/SD
6. Chemicals and Inhibitor (contd.)	
(b) Corrosion inhibitor, ammonia, lime, amine, etc. @ 30¢/lb	42
(c) Water treating, $1.50 per day/1000 GPM Circ.	121
(d) Glycol @ 0.1 lb glycol/bbl of charge @ 17¢/lb	125
(e) Clay @ 0.5 lb clay/bbl of aromatics @ $30/ton	23
Total Chemicals	393
7. Royalties (Running Basis)	
(a) Isomax 5.5¢/bbl charge	782
(b) Platforming @ 5.5¢/bbl charge	1,234
(c) Unifining	
Naphtha Unifining - waiver	-
Distillate Unifining @ 1.5¢/bbl charge	178
(d) Hydeal @ 5% of naphthalen sale value and 0.5¢/gal benzene	797
(e) UDEX @ $250,000 amortized over 10 years	73
Total Royalties	3,064
8. Insurance	
Estimated @ 2.0% of process, offsites and inventories	3,678
9. Utilities	
Electricity @ 1.0¢/KWH	3,969
Fuel*	6,232
Cooling water @ 0.9¢/1000 gals once-through	770
Steam @ 55.0¢/1000 lb	2,033
Total Utilities	13,004
Total Direct Operating Cost	38,242

*Pitch used to supplement refinery gas.

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TABLE III

ESTIMATED UTILITIES

Electricity	KW
Crude, Vacuum and Stabilizer Units	575
Light Naphtha Unifining Unit	290
Heavy Naphtha Unifining Unit	405
Distillate Unifining Unit	800
B-T-X Platforming Unit	1,632
Heavy Naphtha Platforming Unit	1,985
UDEX Unit	390
Naphthalene Hydeal Unit	1,310
Isomax and Gas Concentration Units	5,660
Visbreaking Unit	550
Hydrogen Plant	450
Subtotal	14,047
Offsites and Miscellaneous	2,490
Total	16,537

Fuel	10^6 BTU/Hr
Crude, Vacuum and Stabilizer Units	-327
Light Naphtha Unifining Unit	- 31
Heavy Naphtha Unifining Unit	- 46
Distillate Unifining Unit	- 38
B-T-X Platforming Unit	-142
Heavy Naphtha Platforming Unit	-185
UDEX Unit	- 3
Naphthalene Hydeal Unit	- 94
Isomax and Gas Concentration Units	-170
Visbreaking Unit	-104
Hydrogen Plant	-450
Subtotal	-1,590
Boiler House	-166
Total	-1,756

BTU/Day required	42,140 x 10^6 BTU
BTU/Day from fuel gas	18,720 x 10^6 BTU
BTU/Day needed to be purchased	23,420 x 10^6 BTU

Therefore 3,720 B/D pitch used to supplement refinery fuel gas.

TABLE III (contd.)

ESTIMATED UTILITIES

Page 2

Cooling Water	GPM
Crude, Vacuum and Stabilizer	10,850
Light Naphtha Unifining Unit	980
Heavy Naphtha Unifining Unit	1,450
Distillate Unifining Unit	1,790
B-T-X Platforming Unit	4,050
Heavy Naphtha Platforming Unit	6,090
UDEX Unit	6,600
Naphthalene Hydeal Unit	6,000
Isomax and Gas Concentration Units	4,700
Visbreaking Unit	4,300
Hydrogen Plant	12,500
Miscellaneous	100
Total	59,410

Steam	1,000 Lbs/Hr
Crude, Vacuum and Stabilizer	-39.0
Light Naphtha Unifining Unit	-
Heavy Naphtha Unifining Unit	-
Distillate Unifining Unit	-
B-T-X Platforming Unit	-
Heavy Naphtha Platforming Unit	-99.0
UDEX Unit	- 1.6
Naphthalene Hydeal Unit	-
Isomax and Gas Concentration Units	-
Visbreaking Unit	-
Hydrogen Plant	-14.4
Miscellaneous	-154.0
Total	+19.0
Visbreaker Steam Generator	+135.0
Boiler House	+154.0
Total	

PROCESSING AND ECONOMIC DATA

FOR A PROPOSED PUERTO RICO REFINERY

TABLE IV

ESTIMATED PERSONNEL REQUIREMENTS

	Per Day*
Management	
Manager	1
Assistant Manager)	1
Process Superintendent)	
Chief Engineer)	1
Mech. Superintendent)	
Personnel Manager	1
Chief Chemist	1
Comptroller	1
With above:	
Secretaries	6
Total Management	12
Office	
General Accounting Manager)	1
Refinery Accounting Manager)	
Oil Accounting Manager	1
Material Accounting Manager	1
Accounting Clerks	2
Yield Accountant	1
Billing Clerk	1
Tanker Agent	1
Payroll Clerk	3
Shipping Clerk)	3
Purchasing Agent)	
Office Service:	
Receptionist/Telephone Operator	1
Stenographers and Typists	8
Total Office	23
Laboratory	
Chemists	6
Knock Tester	1
Podbielniak Operator	1
Technicians	11
Washers	3
Samples	4
Total	26

*5 day work week - 8 hours per day.

TABLE IV (contd.)

ESTIMATED PERSONNEL REQUIREMENTS

Page 2

	Per Day*
Safety	
Chief Safety Engineer	1
Assistant Chief Safety Engineer	1
Fireman and Safety Personnel	6
Total	8
Technical and Economics - Case I - Case II	
Technical Superintendent)	1
Economics Superintendent)	
Engineers	6
Secretary	1
Total	8
Warehouse	
Chief Storekeeper	1
Assistant	2
Clerks	2
Helpers	6
Total	11
First Aid	
Doctor	1
Medical Assistant	1
Nurses	3
Total	5
General Workers and Security	
Chief Watchman	1
Shift Watchman	15
Porters	4
Yardmen	4
Total	24

(contd.)

TABLE IV (contd.)

ESTIMATED PERSONNEL REQUIREMENTS

Page 3

Maintenance	Per Day*
Chief Mechanical Engineer	1
Chief Civil Engineer	1
Draftsmen	3
Mechanical Foreman	6
Pipefitters	3
Pipefitters Helpers	9
Welders	2
Welders Helpers	2
Machinists	4
Machinists Helpers	8
Pump Mechanics	3
Pump Mechanics Helpers	3
Boiler Makers	4
Boiler Makers Helpers	4
Chief Electrician	1
Electricians	3
Electrician Helpers	3
Instrument Men	6
Carpenters	2
Carpenters Helpers	2
Painters	2
Painters Helpers	2
Insulator	4
Bricklayers	1
Bricklayers Helpers	1
Mason	2
Mason Helpers	2
Truck Drivers	6
Garage Mechanics, etc.	6
Labor Foremen	2
Laborers	40
Total	138

Oil Movement	
Superintendent	1
Assistant Superintendent	1
Cargo Inspector	1
Pumpers	9
Pumpers Helpers	9
Gaugers	9
Dock Clerks	3
Pumpers	3
Pipe Fitters	4
Pipe Fitters Helpers	10
Truck Loaders	4
Truck Loaders Helpers	4
Oil Separator Operators	4
Total	62

TABLE IV (contd.)

ESTIMATED PERSONNEL REQUIREMENTS

Page 4

Operations	Per Shift
Shift Foreman	1
Crude, Vacuum and Stabilizer	
Senior Operator	1
Board Man	1
Helper	2
Visbreaking Unit	
Senior Operator	1
Board Man	1
Helper	1
Naphtha Unifiner - BTX Platformer-UDEX	
Senior Operator	1
Board Man	2
Helper	3
Naphtha Unifiner - Platformer - Hydeal	
Senior Operator	1
Board Man	2
Helper	3
Distillate Unifiner	
Senior Operator	1
Helper	1
Isomax, Hydrogen Plant and Gas Concentration	
Senior Operator	1
Board Man	1
Helper	2
Boiler House	
Senior Operator	1
Water Treating and Pumping	2
Treaters and Splitter	
Board Man	1
Helper	1
Total	31

PROCESSING AND ECONOMIC DATA

FOR A PROPOSED PUERTO RICO REFINERY

TABLE V

ESTIMATED PERSONNEL REQUIREMENTS AND COSTS

	No.	$/SD
Management	12	642
Office	23	262
Laboratory	26	346
Safety	8	100
Technical and Economics	8	176
Warehouse	11	182
First Aid	5	63
General Workers and Security	24	300
Maintenance	138	1,800
Oil Movement	62	583
Operations	131	2,414
Total	448	6,868

PROCESSING AND ECONOMIC DATA

FOR A PROPOSED PUERTO RICO REFINERY

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TABLE VI

ESTIMATED PROCESS INVESTMENT

Process Units	Material and Labor Costs
1. Crude Unit Including desalter, full corrosion protection and stabilizer	$ 2,000,000
2. Vacuum Unit	1,200,000
3. Light Naphtha Unifining Unit	550,000
4. Heavy Naphtha Unifining Unit	700,000
5. Distillate Unifining Unit	1,200,000
6. B-T-X Platforming Unit	1,800,000
7. Heavy Naphtha Platforming Unit	2,250,000
8. UDEX Unit	1,850,000
9. Naphthalene Hydeal Unit	3,100,000
10. Isomax and Gas Concentration Unit	6,600,000
11. Visbreaking Unit	2,100,000
12. Hydrogen Plant	2,750,000
13. C_3/C_4 Merox Unit	60,000
Process Units - Total M and L	$26,160,000
Design, engineering, contractor's expense and overhead	5,340,000
Total	$31,500,000
Allowance for ocean freight, local freight, unloading and hauling to site	$ 4,000,000

PROCESSING AND ECONOMIC DATA

FOR A PROPOSED PUERTO RICO REFINERY

TABLE VII

ESTIMATED OFFSITES FACILITIES INVESTMENT

	Material and Labor
Utilities	
Steam generating system Water treating facilities Fresh water supply Refinery fuel system Cooling water system Electric power system Compressed air system	$ 3,100,000
Service Facilities	
T.E.L. blending Fire fighting equipment Refinery flare and blowdown system Oil separation and retention pond Sewer system Telephone system Fencing and gates Roads and parking areas Truck load racks	1,400,000
Buildings and Contents	800,000
Tankage and Accessories	
Tankage Tankage accessories Transfer pumps Yard piping	10,000,000
	$15,300,000
Design, engineering, contractor's expense and overhead	3,000,000
	$18,300,000
Allowance for ocean freight, local freight unloading and hauling	2,300,000

Not included in above estimates are the following:

Land
Docks and wharfs
Site preparation
Piling if required

PROCESSING AND ECONOMIC DATA

FOR A PROPOSED PUERTO RICO REFINERY

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TABLE VIII

ESTIMATED INITIAL INVENTORY REQUIREMENTS

	Barrels	Dollars
1. Charge Stocks		
Crude, 20 day inventory	1,200,000	2,820,000
2. Products		
Gasoline		
Premium, 25 days inventory	97,850	487,200
Regular, 25 days inventory	228,330	1,056,700
Benzene, 30 days inventory	28,000	352,800
Toluene, 30 days inventory	31,700	239,700
C8 Aromatics, 30 days inventory	33,100	208,500
Raffinate, 25 days inventory	119,500	482,900
Naphthalene, 30 days inventory	20,500	411,500
Mixed C_3's, 15 days inventory	25,900	76,800
Mixed C_4's, 15 days inventory	25,100	74,400
No.2 Fuel Oil, 25 days inventory	125,000	428,700
No.6 Fuel Oil, 25 days inventory	329,300	708,300
Total	1,064,280	4,527,500
3. Catalyst Initial Loading and a Spare Loading	Pounds	
Isomax	540,600	865,000
Naphtha Unifiners	64,600	103,400
Distillate Unifiner	44,500	46,700
B-T-X Platformer	52,600	286,700
Hvy. Naphtha Platformer	108,500	857,200
Hydeal	125,600	125,600
Total	2,123,100	2,284,600
4. Spare Parts	-	1,250,000
Total		8,062,100

PROCESSING AND ECONOMIC DATA

FOR A PROPOSED PUERTO RICO REFINERY

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TABLE IX

ESTIMATED STARTUP AND WORKING CAPITAL

Section 1 - Startup Capital	
A. Labor - 60 days supervision	$ 267,200
30 days operating and training	72,400
B. Utilities - 30 days startup and training	407,250
Total Startup Capital to Depreciable Capitalization	$ 746,850
Section 2 - Working Capital	
A. Charge Stock - 20 days inventory	$ 2,820,000
B. Products - necessary inventory	4,527,500
C. Direct Operating Costs - 30 days	757,140
Total Working Capital to Non-Depreciable Capitalization	$ 8,104,640

PROCESSING AND ECONOMIC DATA

FOR A PROPOSED PUERTO RICO REFINERY

TABLE X

ESTIMATED TOTAL INVESTMENT

Initial Catalyst and Chemical Loading and Spare Parts	$ 3,534,600
Process Investment	35,500,000
Offsites Investment	20,600,000
Startup and Working Capital	
(a) Depreciable	746,850
(b) Non-depreciable	8,104,140
Total	$ 68,485,590

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PROCESSING AND ECONOMIC DATA

FOR A PROPOSED PUERTO RICO REFINERY

TABLE XI

ESTIMATED GROSS MANUFACTURING MARGIN

Products	B/D	$/Bbl	¢/Gal	$/D
Gasoline, Premium	3,914	4.979	11.86	19,488
Regular	9,133	4.628	11.02	42,268
Total	13,057			61,756
Benzene	932	12.60	30.00	11,743
Toluene	1,058	7.56	18.00	7,998
C8 Aromatics	1,104	6.30	15.00	6,955
Raffinate	4,779	4.041	9.62	19,276
Naphthalene (¢/Lb)	687	-	(5.0)	13,716
Mixed C3's	1,725	2.964	7.06	5,113
Mixed C4's	1,674	2.964	7.06	4,962
No. 2 Fuel Oil	17,458	3.430	8.17	59,881
No. 6 Fuel Oil	5,000	2.151	5.12	10,755
Pitch	13,172	1.800	4.29	23,710
Value of Production	60,546			225,865
Charge				
Crude	60,000	2.350	5.60	141,000
Cost of Raw Material				141,000
Gross Manufacturing Margin				84,865

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FOR A PROPOSED PUERTO RICO REFINERY

TABLE XII

ESTIMATED REFINERY CONSOLIDATED YIELDS

Charge	B/D	Vol.%	Lbs/Hr	Wt. %
Tia Juana Medium Crude	60,000	100.0	780,046	100.00
Refinery Yield				
1. Gasoline				
Lt.St.Run	3,404	5.7	30,243	3.88
C_4-390° F Platformate	9,653	16.1	110,382	14.15
	13,057	21.8	140,625	18.03
2. Benzene	932	1.6	11,986	1.54
3. Toluene	1,058	1.8	13,250	1.70
4. C8 Aromatics	1,104	1.8	13,783	1.77
5. Raffinate	4,779	8.0	49,353	6.33
6. Naphthalene	687	1.1	11,430	1.47
7. Mixed C_3's	1,725	2.9	12,938	1.66
8. Mixed C_4's	1,674	2.8	14,386	1.84
9. No. 2 Fuel Oil	17,458	29.1	155,960	20.00
10. No. 6 Fuel Oil	5,000	8.3	79,145	10.15
11. Pitch*	13,172	22.0	212,631	27.23
12. Fuel Gas (F.O.E.)	2,975	5.0	64,558	8.28
	63,621	101.7	780,046	100.00

*Includes 3,720 B/D pitch used to supplement refinery fuel gas.

PROCESSING AND ECONOMIC DATA

FOR A PROPOSED PUERTO RICO REFINERY

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TABLE XIII

ESTIMATED CRUDE UNIT YIELDS

Charge	°API	B/D	Vol.%	Lbs/Hr	Wt. %	Lb/Gal
Tia Juana Medium Crude	27.1	60,000	100.0	780,000	100.0	7.429
Yields						
IBP - 165° F	-	2,040	3.4	17,706	2.27	-
165-270° F	62.0	5,100	8.5	54,288	6.96	6.087
270-450° F	45.4	7,680	12.8	89,544	11.48	6.660
450-650° F	38.6	11,880	19.8	143,988	18.46	6.926
650-1000° F	19.9	14,220	23.7	193,674	24.83	7.783
Vac. Bottoms	8.6	19,080	31.8	280,800	36.00	8.412
		60,000	100.0	780,000	100.00	

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PROCESSING AND ECONOMIC DATA

FOR A PROPOSED PUERTO RICO REFINERY

TABLE XIV

ESTIMATED VISBREAKING YIELD

Charge	°API	B/D	Vol.%	Lbs/Hr	Wt. %	Lbs/Gal
Vacuum Bottoms	8.6	19,080	100.0	280,800	100.0	8.412
Yields						
H_2S				618	0.22	
H_2				28	0.01	
C_1				899	0.32	
C_2=				365	0.13	
C_2				1,207	0.43	
C_3=		153	0.8	1,151	0.41	
C_3		210	1.1	1,488	0.53	
C_4		210	1.1	1,769	0.63	
iC_4		57	0.3	534	0.19	
nC_4		76	0.4	702	0.25	
C_5-400° F	56.0	1,755	9.2	19,319	6.88	6.283
Fuel Oil, 300 Cs @ 210° F	8.6	17,172	90.0	252,720	90.00	8.412
		19,633	102.9	280,800	100.00	

PROCESSING AND ECONOMIC DATA

FOR A PROPOSED PUERTO RICO REFINERY

TABLE XV

ESTIMATED ISOMAX YIELDS

Charge	°API	B/D	Vol.%	Lbs/Hr	Wt. %	Lbs/Gal
Vacuum Gas Oil	19.9	14,220	100.0	193,680	100.0	7.783
H_2 (Chemical)				6,585	3.4	
				200,265	103.4	
Yields						
H_2S				2,905	1.5	
C_1				1,162	0.6	
C_2				1,162	0.6	
C_3				3,680	1.9	
C_4		1,095	7.7	9,103	4.7	
C_5/C_6		1,962	13.8	19,174	9.9	
C_7/400° F		6,939	48.8	80,377	41.5	
400-625° F	33	6,513	45.8	82,702	42.7	
Total		16,509	116.1	200,265	103.4	

Properties of Products

	C_5/C_6	C_7-400° F
F-1 Octane, Clear	80	56
+3cc.	97	79

PROCESSING AND ECONOMIC DATA

FOR A PROPOSED PUERTO RICO REFINERY

TABLE XVI

ESTIMATED B-T-X PLATFORMING YIELDS

Charge	°API	B/D	Vol.%	Lbs/Hr	Wt. %	Lbs/Gal
Unifined Virgin 165-270° F	62.0	5,100	56.54	54,273	56.57	6.087
Unifined Visbkr. 165-270° F	63.4	810	8.98	8,568	8.93	6.044
Light Isomaxate	62.0	3,100	34.48	33,090	34.50	6.087
		9,020	100.00	95,931	100.00	

Yields

H_2			1,477	1.54
C_1			259	0.27
C_2			1,180	1.23
C_3	372	4.12	2,753	2.87
C_4's	537	5.95	4,451	4.64
C_5's	494	5.48	4,451	4.64
C_6 Paraffins	1,254	13.90	11,953	12.46
C_7 Paraffins	1,214	13.46	11,991	12.50
C_8 Paraffins	941	10.43	9,555	9.96
C_9 Paraffins	327	3.63	3,386	3.53
Methyl Cyclopentane	184	2.04	1,995	2.08
Cyclohexane	26	0.29	297	0.31
C_7 Naphthene	105	1.16	1,161	1.21
C_8 Naphthenes	44	0.49	499	0.52
C_9 Naphthenes	26	0.29	288	0.30
Benzene	390	4.32	4,950	5.16
Toluene	1,102	12.22	13,805	14.39
C_8 Aromatics	1,227	13.60	15,312	15.96
C_9+ Aromatics	487	5.40	6,168	6.43
	8,730	96.78	95,931	100.00

PROCESSING AND ECONOMIC DATA FOR A PROPOSED PUERTO RICO REFINERY

TABLE XVII

ESTIMATED UDEX YIELDS

Charge

Depentanized Platformate - See Table Estimated B-T-X Platforming Yields

Yields

Extract

Platforming Yields, B/D		Recovery Factors	Recovered
Benzene	390	99%	386
Toluene	1,102	96%	1,058
C8 Aromatics	1,227	90%	1,104

Raffinate

C_6 Paraffins	1,254
C_7 Paraffins	1,214
C8 Paraffins	941
C_9+ Paraffins	327
Methyl Cyclopentane	184 → P.E.
Cyclohexane	26 → P.E.
C_7 Naphthenes	105
C8 Naphthenes	44
C_9 Naphthenes	26
Benzene	4
Toluene	44
C8 Aromatics	123
C_9+ Aromatics	487

General Properties of Raffinate

F-1 Clear	62.0
F-1 +3cc.	80.0
RVP	3.5

PROCESSING AND ECONOMIC DATA

FOR A PROPOSED PUERTO RICO REFINERY

TABLE XVIII

ESTIMATED HEAVY NAPHTHA PLATFORMING YIELDS

Charge	°API	B/D	Vol.%	Lbs/Hr	Wt. %	Lbs/Gal
Unifined Virgin 270-450° F	45.4	7,680	57.21	89,507	57.30	6.660
Unifined Visbrkr. 270-400° F	50.2	945	7.04	10,759	6.89	6.483
Heavy Isomaxate	45.4	4,800	35.75	55,942	35.81	6.660
	45.8	13,425	100.00	156,208	100.00	

Yields

H_2			1,968	1.26
C_1			3,452	2.21
C_2			4,421	2.83
C_3			5,967	3.82
C_4's	772	5.75	6,483	4.15
C_5's	765	5.70	7,014	4.49
Hexanes+	10,341	77.03	126,903	81.24
	11,878	88.48	156,208	100.00

Deprop. Bottoms - C_4+ Platformate

	B/D	°API	RVP	F-1 Cl.	F-1+3cc.
Total Bottoms	11,586	42.1	6.07	94.9	99.8

Platformate Split

	°API	B/D	Vol.%	Lbs/Hr	Wt. %	Lbs/Gal
C_4-390° F Platf.	48.8	9,653	83.3	110,384	80.23	6.534
390 E.P. Platf.	15.0	1,933	16.7	27,205	19.77	8.044
	42.1	11,586	100.0	137,589	100.00	6.786

PROCESSING AND ECONOMIC DATA

FOR A PROPOSED PUERTO RICO REFINERY

TABLE XIX

ESTIMATED NAPHTHALENE HYDEAL YIELDS

Charge	°API	B/D	Vol.%	Lbs/Hr	Wt. %	Lb/Gal
Hvy. Platformate	15.0	1,933	100.0	27,205	100.0	8.044
H_2(710 SCF/100#)	-	-	-	1,027	3.78	-
				28,232	103.78	
Yields						
Benzene	28.3	546	28.3	7,074	26.00	7.375
Naphthalenes				11,430	42.00	
Hvy. Aromatics	31.0	65	3.3	817	3.00	7.251
Fuel Gas(methane)				8,918	32.78	
				28,239	100.00	

Fuel Gas*- 1,840 bbl F.O.E.

*Fuel gas containes components both from Hydeal operations and the heavy naphtha Platformer separator gas.

PROCESSING AND ECONOMIC DATA

FOR A PROPOSED PUERTO RICO REFINERY

TABLE XX

ESTIMATED GAS CONCENTRATION UNIT YIELDS

	Crude Lbs/Hr	Hvy.Nap. Platf. Lbs/Hr	B-T-X Platf. Lbs/Hr	ISOMAX Lbs/Hr	Visbkr. Lbs/Hr	Total Lbs/Hr	Fuel Gas Lbs/Hr	BTU/Lb	Recovered Lbs/Hr	Recovered B/D
H_2	-	37	23	-	28	88	88	61,029	-	
C_1	-	401	27	1,162	899	2,489	2,489	23,886	-	
$C_2^=$	-	-	-	-	365	365	365	21,639	-	
C_2	-	1,802	440	1,162	1,207	4,611	4,611	22,325	-	
$C_3^=$	-	-	-	-	1,151	1,151	173	21,047	978	128
C_3	2,890	4,038	1,831	3,680	1,488	13,927	2,089	21,664	11,838	1,597
$C_4^=$	-	-	-	-	1,769	1,769	35	20,766	1,734	196
iC_4	222	313	343	5,917	534	7,329	11	21,239	7,318	890
nC_4	510	383	238	3,186	702	5,019	14	21,301	5,005	588
	3,622	6,974	2,902	15,107	8,143	36,748	9,875		26,873	3,399

Recovery Factors

C_3's 85%
C_4's 98%

Fuel Gas: 860 bbl F.O.E.

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E 1175

PROCESSING AND ECONOMIC DATA

FOR A PROPOSED PUERTO RICO REFINERY

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TABLE XXI

ESTIMATED GASOLINE POOL

Components	B/D	Vol. %	F-1 Cl.	F-1+3cc	RVP
Lt. St. Run	3,404	26.1	78.5	96.0	26.00
C4-390° F Platformate	9,653	73.9	92.5	98.6	5.50
	13,057	100.0	88.4	98.0	10.0

T.E.L. requirement to meet pool octane of 95.7 = 1.2cc T.E.L./Gal

PROCESSING AND ECONOMIC DATA E 1177

FOR A PROPOSED PUERTO RICO REFINERY

TABLE XXII

ESTIMATED H_2 PRODUCTION AND CONSUMPTION

Production

B-T-X Platformer	9,020 B/D x 729 SCF/Bbl	=	6.6 x 10^6SCF/D
Hvy. Nap. Platformer	13,380 B/D x 647 SCF/Bbl	=	8.7 x 10^6SCF/D
Hydrogen Plant		=	30.0 x 10^6SCF/D
			45.3 x 10^6SCF/D

Consumption*

Lt.Nap.Unifiner	5,910 B/D x 108 SCF/Bbl	=	0.6 x 10^6SCF/D
Hvy.Nap.Unifiner	8,580 B/D x 117 SCF/Bbl	=	1.0 x 10^6SCF/D
No.2 F.O.Unifiner	11,880 B/D x 126 SCF/Bbl	=	1.5 x 10^6SCF/D
Hydeal Unit	1,933 B/D x 4498 SCF/Bbl	=	8.7 x 10^6SCF/D
Isomax Unit	14,220 B/D x 2150 SCF/Bbl	=	30.6 X 10^6SCF/D
			42.4 x 10^6SCF/D

*Consumption includes chemical and solution losses.

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E. 1179

- PROPCO Brochure is dated June '63
Mtdn p 27 "Chap 1" - Attach or [illegible]
in 1965 is estimated to be (or about) [illegible]
emphasis to future?
Was Rich Mahrson Co. [illegible] by us?
(Map in the Chatham Chap)

How [illegible] Lumber & Timber tracts?
Any papers from them?

Prop was [illegible] Commonwealth Bond
& Shareholding Group (Chap III) [illegible]

NT
Yours